

# Case: Tina Moore v. Brian Kaminski, et al.

4:14-CV1443 SNLJ, etc.

Transcript of: Michael Graham, M.D.

**Date:** March 8, 2016

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Tina Moore v. Brian Kaminski, et al.

Michael Graham, M.D.

March 8, 2016

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TINA MOORE, INDIVIDUALLY AND AS PERSONAL  
REPRESENTATIVE OF THE ESTATE OF JASON MOORE, DELORES  
MOORE, AND RENEE RODGERS, AS NEXT FRIEND FOR A.D.R.,  
A MINOR,

PLAINTIFFS,

VS.

BRIAN KAMINSKI, ET AL.,

DEFENDANTS.

DEPOSITION OF  
MICHAEL GRAHAM, M.D.

MARCH 8, 2016

Tina Moore v. Brian Kaminski, et al.

Michael Graham, M.D.

March 8, 2016

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1                               IN THE DISTRICT COURT  
2                               FOR THE EASTERN DISTRICT OF MISSOURI  
3                               EASTERN DIVISION  
4

5       TINA MOORE, INDIVIDUALLY AND AS PERSONAL  
6       REPRESENTATIVE OF THE ESTATE OF JASON MOORE, DELORES  
7       MOORE, AND RENEE RODGERS, AS NEXT FRIEND FOR A.D.R.,  
8       A MINOR,

9  
10                           PLAINTIFFS,

11  
12       Vs.   No. 4:14-CV1443 SNLJ  
13   4:14-CV1447 SNLJ  
14   (Consolidated)

15       BRIAN KAMINSKI, ET AL,

16  
17                           DEFENDANTS.  
18

19               Deposition of MICHAEL GRAHAM, M.D., taken on  
20       behalf of the Plaintiffs, at St. Louis University  
21       School of Medicine, 1402 S. Grand, St. Louis,  
22       Missouri 63104, on the 8th day of March, 2016,  
23       between the hours of 2:08 p.m. and 4:44 p.m., before  
24       Linda DeBisschop, CSR, CCR, Illinois CSR No.  
25       084.004741 and Missouri CCR No. 779.

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(Exhibits are attached to transcript.)

1 VIDEOGRAPHER: We are on the record at 2:08.  
2 Today's date is March 8, 2016 and we are at the  
3 office Dr. Michael Graham. We are here today for  
4 the deposition of Dr. Michael Graham to be taken in  
5 the case of Tina Moore versus Brian Kaminiski, et  
6 al.

7 At this time would counsel identify  
8 themselves for the record, please.

9 MR. FLOYD: Mark Floyd representing Tina  
10 Moore.

11 MR. DOWD: Bill Dowd representing Tina  
12 Moore.

13 MR. JOHNSON: Todd Johnson representing  
14 Delores Moore and Renee Rodgers.

15 MS. SHAFIAIE: Ida Shafaie representing  
16 defendants.

17 VIDEOGRAPHER: Thank you. Would the court  
18 reporter please swear in the witness.

19  
20 MICHAEL GRAHAM, M.D.,  
21 Of lawful age, having been first duly sworn to  
22 Testify the truth, the whole truth, and  
23 Nothing but the truth in the case aforesaid,  
24 Deposes and says in reply to oral  
25 Interrogatories, propounded as follows, to-wit:

1

2

[EXAMINATION]

3

BY MR. FLOYD:

4

**Q** Good afternoon, Doctor.

5

**A** Hi.

6

**Q** My name is Mark Floyd, and as I just stated,

7

I'm representing Tina Moore. We've asked you here

8

today to take your deposition so we can learn a

9

little bit about some of the opinions that you're

10

going to giving in this case at trial.

11

Before we get started, could I take a

12

look at your file there?

13

**A** Sure.

14

**Q** Does this folder contain all of the

15

documents that you have related to this case?

16

**A** I have documents that I reviewed that are

17

too voluminous to put in there.

18

**Q** Do you have any e-mails that aren't

19

contained in this file?

20

**A** I think they are just related to logistics.

21

I didn't keep them. Nothing with any substance in

22

them.

23

**Q** Are your billing records in this file?

24

**A** Yes.

25

**Q** I don't see like an engagement letter.



1 Do you have an engagement letter from  
2 Mr. Dunne?

3 A I just have the first page there or that  
4 first cover letter accompanying the materials.

5 Q When I read that letter, it looks like he's  
6 sending you a list of materials to be reviewed  
7 without asking you what to do with those materials.

8 I almost read into it that there had  
9 to be a conversation in addition to this letter?

10 A They probably called me on the phone.

11 Q Do you recall what your conversation was  
12 with Mr. Dunne when he asked you to be involved in  
13 this case?

14 A I mean, vaguely. I think he just asked me  
15 if I had time to review an arrest-related death.

16 Q And you knew that Peter was defending the  
17 City of Ferguson and a police officer?

18 A I didn't, but he probably told me.

19 Q I mean, you certainly knew that before you  
20 generated any report, correct?

21 A Yes.

22 Q In fact, you have reviewed the pleadings in  
23 this filed that we filed, that the attorneys filed.

24 You reviewed the pleadings, have you  
25 not?

1           **A**    I probably took a look at them.

2           **Q**    Why do you want to review the pleadings?

3           **A**    They were sent to me.

4           **Q**    Do you know why they were sent to you?

5           **A**    No idea.

6           **Q**    Did you review them?

7           **A**    You know, I think I glanced at them, but all  
8   the legal talk and stuff, I kind of gloss over it.  
9   It doesn't mean anything to me.

10          **Q**    You've been involved in legal depositions  
11   for decades, have you not, Doctor?

12          **A**    I have.

13          **Q**    So you know a little bit more about legal  
14   talk than maybe what you're letting on?

15          **A**    Not really, no. I try to stay out of the  
16   legal side.

17          **Q**    How many depositions do you think you've  
18   given?

19          **A**    Over my career?

20          **Q**    Yeah.

21          **A**    Oh, geez, I don't know, over 100 easily.

22          **Q**    I mean, more than a thousand, isn't it?

23          **A**    I doubt it.

24          **Q**    How many times have you testified in court?

25          **A**    Oh, in court including the work I do as a

1 medical examiner?

2 Q Yes.

3 A Hundreds.

4 Q And getting into your work in legal medical  
5 situations, you've testified in asbestos cases for  
6 20 or 30 years, haven't you?

7 A About thirty.

8 Q And you testified primarily for on the  
9 defense of asbestos manufacturers that were being  
10 sued for exposing individuals to asbestos who  
11 oftentimes would die in alleged claims from asbestos  
12 exposure, is that correct?

13 A Yes.

14 Q And what years did you start providing  
15 expert testimony on behalf of the asbestos  
16 manufacturers?

17 A Mid-'80s.

18 Q And at what frequency were you doing that a  
19 year?

20 When I say frequency, how many cases  
21 a year were you consulting or reviewing on behalf of  
22 asbestos defendants?

23 A I mean, currently several dozen.

24 Q But going back into the '80s, the litigation  
25 was at a higher rate in the '90s and -- wasn't it?

1           **A**    I couldn't tell you. I mean, in the '80s I  
2       didn't look at that many cases because I was just  
3       starting out doing them and then it just kind of  
4       built up over the years.

5           **Q**    Was there a time in the past where you  
6       handled more asbestos cases than you do today?

7           **A**    Probably not. It's been pretty steady  
8       probably the last eight to ten years.

9           **Q**    And in addition to testifying on behalf of  
10      asbestos defendants, you also handled police custody  
11      death cases, is that correct?

12          **A**    I look at some, yeah.

13          **Q**    And the jury is going to hear TASER  
14      International throughout this case and you know who  
15      TASER International is, correct?

16          **A**    Sure.

17          **Q**    Are you still on their advisory board?

18          **A**    I am.

19          **Q**    How long have you been associated with TASER  
20      International?

21          **A**    Well, I'd have to look at my CV. Ten or  
22      fifteen years maybe.

23          **Q**    And TASER International manufactures the  
24      TASER weapons, is that correct?

25          **A**    Sure.

1           **Q**   And TASER International has been involved in  
2   litigation over the years when people sue them when  
3   there's a death that follows a tasing incident on an  
4   individual.

5                           Do you agree with that?

6           **A**   Yes.

7           **Q**   And TASER has asked you to be on their  
8   advisory board, is that correct?

9           **A**   Yes.

10          **Q**   Ten or fifteen years?

11          **A**   I think that's about right.

12          **Q**   How did you develop that relationship with  
13   them?

14          **A**   At least my understanding is they asked a  
15   variety of forensic pathologists who they would  
16   recommend to offer advice to TASER about  
17   arrest-related deaths. Apparently, my name came up  
18   a lot.

19          **Q**   Have you ever been to TASER International  
20   headquarters?

21          **A**   Yes.

22          **Q**   Is that this Arizona?

23          **A**   Yes.

24          **Q**   Have you accepted anything of any value for  
25   them?

1           **A**    I get compensated for being on the advisory  
2    board and I review cases for them.

3           **Q**    Have they taken you on any trips?

4           **A**    I mean, they pay for my trip when I go to,  
5    you know, speak on their behalf or, you know, take  
6    part in the meetings, but as far as sending me on  
7    vacation, no.

8           **Q**    And have you -- have you given lectures for  
9    them?

10          **A**    Yeah, I think once.

11          **Q**    Were there power points for them or  
12    materials for the lecture?

13          **A**    I did have a power point for that lecture,  
14    yeah.

15          **Q**    Do you still have those materials?

16          **A**    I doubt that I got that one. That was a  
17    long time ago and it was actually not so much about  
18    TASERS, but about just arrest-related or  
19    custody-related deaths in general.

20          **Q**    And I also understand that you are the City  
21    of St. Louis Medical Examiner, correct?

22          **A**    I am.

23          **Q**    And you're Deputy Examiner in Jefferson  
24    County and St. Louis County?

25          **A**    I am.

1           **Q**   Do you have access to the files and medical  
2       records in St. Louis County from their coroner's  
3       office?

4           **A**   I've got access to the cases that I do. I  
5       suppose I could get a hold of other cases but I  
6       don't.

7           **Q**   I was just curious because at one point in  
8       your report you indicated that you would like to see  
9       the heart pathology slides of Mr. Moore?

10          **A**   Yes.

11          **Q**   And those were done in St. Louis County --

12          **A**   Right.

13          **Q**   -- where you're a deputy. I'm wondering, do  
14       you have access to that file?

15          **A**   Well, I mean, theoretically I could go get  
16       it, but since I'm not involved in the case as a  
17       medical examiner, I would not.

18          **Q**   Have you had a chance to review those  
19       slides?

20          **A**   No.

21          **Q**   Getting back to the legal work, how many --  
22       let's talk about that a little bit. You know,  
23       taking into consideration cases involving TASER or  
24       cases against police departments or police officers,  
25       okay.

1 Focusing on cases against police  
2 departments and police officers, how many cases a  
3 year do you consult on those?

4 A Oh, I doubt that it's more than a couple.

5 Q And how many years have you been doing that?

6 A Probably 15, 20 years.

7 Q And do you have any other cases, like  
8 excessive force cases, do you ever handle any of  
9 those or are they only death cases?

10 A It would be anything that would involve  
11 forensic pathology, so it may not be a death case  
12 but it would involve injury or something like that.  
13 As far as whether or not excessive force was used, I  
14 don't have any opinions about that.

15 Q But when you say a few cases a year, does  
16 that include even the non-death cases?

17 A Sure.

18 Q And besides this case right now, this City  
19 of Ferguson case and Kaminiski case, do you have any  
20 other cases where you're consulting or been  
21 designated as an expert on behalf of a police  
22 department or police officer?

23 A I think maybe -- maybe one.

24 Q Okay. And you indicated that your fees, at  
25 least in the materials you gave us, were \$500 an



1 hour?

2           **A**    Yes.

3           **Q**    And does that include \$500 for reviewing  
4 medical records that come to you?

5           **A**    All my time is billed the same.

6           **Q**    So even reviewing those pleadings, you would  
7 have been billed for reviewing the pleadings that  
8 were sent, the petition we filed and scheduling  
9 order and all of that?

10          **A**    Everything is billed at the same rate.

11          **Q**    Okay. And then when you write a report,  
12 that's another source of billing, correct?

13          **A**    Yes.

14          **Q**    And then for testimony, is your testimony  
15 like the time that you're charging for your time  
16 here today, is that \$500 or is that more?

17          **A**    Same.

18          **Q**    And for live testimony in the courtroom,  
19 what's your fee for that?

20          **A**    Same.

21          **Q**    Okay. Have you been asked in the past to  
22 estimate what your annual revenue is each year from  
23 your involvement with legal cases?

24          **A**    I have for asbestos.

25          **Q**    And do you recall -- when was the last time

1 you were asked that?

2 A Probably last week.

3 Q Do you recall what those figures are?

4 A Yeah, about \$300,000.

5 Q \$300,000 a year just for asbestos?

6 A Yes.

7 Q Okay. Then in addition to that, there would  
8 be income that you would make on police custody  
9 cases, correct?

10 A A little bit, yeah.

11 Q When I say police custody, I'm being loose  
12 with my words.

13 A I understand.

14 Q You understand legal expert, I think.

15 Is there any other medical legal work  
16 that you do outside of your employer, St. Louis  
17 University, St. Louis County, St. Louis City?

18 A All of my consultation work is done through  
19 the university.

20 Q Okay. And the fees that you generate on  
21 these expert arrangements, does that go to you?

22 A I get 60 percent of it. The university gets  
23 40 percent.

24 Q Okay. And then you also earn a salary  
25 through St. Louis University as a professor?

1           **A**    I mean, my compensation includes my  
2   consultation work, my university compensation.

3           **Q**    And you -- you get a salary from the City of  
4   St. Louis?

5           **A**    No. That's contract with the university.

6           **Q**    Okay. And do you get a salary through  
7   Jefferson County or St. Louis County?

8           **A**    St. Louis County I do. Jefferson County I  
9   don't.

10          **Q**    Okay. So you get a salary through St. Louis  
11   University and then you also get a percentage,  
12   60 percent of the money that you bring in on these  
13   expert fees?

14          **A**    Yes.

15          **Q**    Okay. And you estimate that's about three  
16   hundred thousand a year?

17          **A**    About that.

18          **Q**    Is that your 60 percent or is that --

19          **A**    No, that's mine, yeah.

20          **Q**    So the total that's brought in then is --  
21   I'm not very good at math.

22          **A**    About half million.

23          **Q**    40 percent, yeah, about a half million,  
24   okay.

25                               Now, I mentioned before that your

1 testimony on behalf of asbestos cases is primarily  
2 when you've been hired by the asbestos manufacturers  
3 when they're being sued and you're testifying on  
4 behalf of the asbestos manufacturers, correct?

5 **A** Not so much on asbestos manufacturers. It's  
6 more end users.

7 **Q** End users. It's where people get exposed to  
8 it, maybe it's a premises liability now or Work Comp  
9 case, anything?

10 **A** Some of them.

11 **Q** But it's usually a person being sued that is  
12 responsible for exposing someone to asbestos,  
13 correct?

14 **A** That's the allegation.

15 **Q** Okay. And then on these police cases, your  
16 role is typically testifying on behalf of defending  
17 the police officer of the police department,  
18 correct?

19 **A** You know, actually over the years it's  
20 broken up pretty even between plaintiff and defense.

21 **Q** Are you handling any cases right now where  
22 you are testifying on behalf of a plaintiff that is  
23 suing any local police department or police officer?

24 **A** No. I think I just have one other case and  
25 I think it's for the defense.

1           **Q**   When is the last time that you testified on  
2   behalf of a plaintiff that sued a local police  
3   department or police officer?

4           **A**   Boy, I don't remember.

5           **Q**   Could you even name one case?

6           **A**   Not off the top of my head I couldn't, no.

7           **Q**   So as we sit here today, you can't name one  
8   case where you've testified on behalf of a plaintiff  
9   that sued a local police officer or police  
10   department?

11          **A**   Oh, I mean, as far as the most recent one I  
12   can't. I mean, I can in the past. It was an  
13   officer who was intoxicated while on the job I think  
14   working secondary security and shot somebody and I  
15   testified on behalf of the family in that one. A  
16   couple seminars.

17          **Q**   Would you agree that the percentage of you  
18   testifying on behalf of the plaintiff is quite a bit  
19   less than on behalf of the police department or a  
20   police officer?

21               MS. SHAFIAE: Object to form.

22          **A**   I think over the years it's been pretty  
23   even. More recently probably a little more defense.

24          **Q**   (By Mr. Floyd) And I want to talk a little  
25   bit about your background. I've seen your CV.

1 I understand that you are a  
2 pathologist, board certified pathologist?

3 A I am.

4 Q You've been with St. Louis University for  
5 quite a number of years?

6 A Basically forever.

7 Q And you've been the chief medical examiner  
8 since 1989?

9 A Yes.

10 Q And you're a professor of pathology here as  
11 well?

12 A I am.

13 Q And we're going to hear from doctors in this  
14 case that are cardiologists or electrophysiologists.  
15 Do you know what they are?

16 A Yes.

17 Q Tell us what a pathologist is.

18 A Say a physician who practices pathology  
19 which is the study of the basic nature of disease  
20 and injury, how they occur, what they look like,  
21 what effects they have on people.

22 Q And when I hear the word pathology, to me  
23 looking at slides of cells and human tissue and in  
24 my field when we talk about, well, let's say was  
25 there a change in pathology, is there a definition

1 that pathology somehow relates to the anatomy or the  
2 tissue of a human being?

3 A No. Although that is an integral part of  
4 pathology. It's not present in all the cases that  
5 we do, but of the physicians who look at tissues,  
6 we're the ones that do it the most.

7 Q Most of the pathology work that you do is on  
8 decedents, is that correct?

9 A Yes.

10 Q I mean, I suppose there could be some  
11 pathology work on biopsies from cancer and things  
12 like that?

13 A Yes.

14 Q Would that be your department or oncology?

15 A No, no. That's pathology. The people who  
16 look at the tissue are the pathologists.

17 Q Do you do that?

18 A I do.

19 Q But the great majority of what you do is  
20 dealing with tissues from decedents and  
21 investigating that?

22 A Yes.

23 Q And what is your understanding of what a  
24 cardiologist does?

25 A A cardiologist is a specialty within or a

1 subspecialty within internal medicine that diagnoses  
2 and treats heart diseases.

3 Q And what about an electrophysiologist?

4 A Cardiac electrophysiologist?

5 Q Cardiac electrophysiologist.

6 A They deal primarily with the electrical  
7 system of the heart. They're kind of the arrhythmia  
8 doctors.

9 Q Do you understand the electrical system of  
10 the heart?

11 A In general I do, yeah, certainly not to the  
12 extent that a cardiac electrophysiologist should.

13 Q Have you ever heard of a doctor named  
14 Dr. Douglas Zipes?

15 A Yes.

16 Q And you've read his articles?

17 A I have or at least the ones related to  
18 TASERS I have, yeah.

19 Q Have you had cases in which he's testified  
20 on cases that you're involved in as well?

21 A You know, I think he and I were both on one  
22 case that I recall and I think we had the same  
23 opinion. I don't know that it was a TASER case. I  
24 think it was something else.

25 Q Dr. Zipes, did he graduate from Harvard



1 Medical School?

2 A I have no idea.

3 Q You've looked at his CV before?

4 A No.

5 Q Would you agree that he's a very well-known  
6 cardiac electrophysiologist?

7 A Yes.

8 Q Well known in the United States?

9 A Yes.

10 Q And that he's had articles published in the  
11 Journal of American Heart Association?

12 A I don't know. He's published widespread. I  
13 don't know what articles or journals in particular.

14 Q And I think asked this, but you've read some  
15 of Dr. Zipes' articles, have you not?

16 A I have.

17 Q Can you tell me what cardiac capture is?

18 A It's the response of the heart to electrical  
19 stimulus.

20 Q And you indicated earlier that the heart has  
21 electrical, I think you started to indicate this  
22 when we talked about what a, you know, cardiac  
23 electro-physicist does -- physiologist does.

24 That cardia capture, is that  
25 capturing the rhythm of the heart, the electrical

1 pulse?

2 **A** Yes.

3 **Q** And you understand that in one of Dr. Zipes'  
4 articles he indicates that he concludes that ECDs,  
5 TASERS can result in cardiac capture and death.

6 Are you aware of that?

7 **A** Yes.

8 **Q** And he is, in fact, a cardiac  
9 electrophysiologist, correct?

10 **A** He is.

11 **Q** And that's directly in the specialty of what  
12 he handles that subject matter, correct?

13 **A** Cardiac capture, yes.

14 **Q** And do you -- do you disagree with Dr.  
15 Zipes?

16 **A** I disagree with the death part. The cardiac  
17 capture I think is pretty straightforward, that  
18 rarely TASER has been shown to cause cardiac capture  
19 that has not been unequivocally shown to cause death  
20 of a spike direct by electrocution, if you will.

21 **Q** Do you agree that there are many cases, even  
22 hundreds of cases, where people have been tased and  
23 then following the tase they've died?

24 **A** No.

25 **Q** Okay. You read articles, I'm sure, right,

1 of what's going on since 2001 and even before that  
2 where there have been TASER-involved deaths?

3 **A** There have been deaths that are temporally  
4 related to Tasers. I don't think it's in the  
5 hundreds. I mean, I think Dr. Zipes found eight  
6 cases he thought qualified.

7 **Q** I don't know if he said that there were  
8 eight cases that qualified. I know that he reviewed  
9 eight cases and found that all of those are related  
10 to TASER death, but I don't know if he's saying  
11 those are the only eight that ever happened.

12 **A** No, I mean I thought he said he found eight  
13 that he attributed.

14 **Q** That article, are you suggesting that that  
15 article states that there were only eight cases?

16 **A** No.

17 **Q** Okay. Because that's not what it states,  
18 correct?

19 **A** Correct. He reviewed eight and that he  
20 thought qualified as being related to TASER.

21 **Q** You would agree that your position that  
22 TASER, that a TASER load sustained by an individual  
23 cannot cause death, that that position that you hold  
24 is opposed by many qualified physicians?

25 **A** First of all, I've never said TASER can't

1 cause death because certainly there has been a  
2 variety of mechanical injuries consequent to a TASER  
3 discharge where death has occurred. I don't think  
4 anybody would argue about the head injuries and a  
5 few fires and some drownings.

6 As far as the electrical stimulation  
7 of the heart, now I think I'm in the majority of the  
8 opinion that has not been unequivocally shown to  
9 cause death although theoretically it could.

10 Q Okay. But you agree there are many  
11 competent physicians who disagree with you?

12 A I don't know that there are many. People  
13 who have studied the area. I don't know that there  
14 are many.

15 Q Dr. Zipes, one of the most prominent cardiac  
16 electrophysiologists, disagrees with you, correct?

17 A Yes.

18 Q And when you were hired on this case, this  
19 Moore case, who hired you?

20 A Pitzer Snodgrass.

21 Q And have you worked for Pitzer Snodgrass in  
22 the past?

23 A A few times.

24 Q Have you worked for Peter Dunne in the past?

25 A That I couldn't tell you.

1           Q    When was the first time that you talked to  
2   anybody about this case?

3           A    It would have been when they called me and  
4   asked me if I had time to review it.

5           Q    When would that have been?

6           A    I mean, obviously, some time before October  
7   -- I'm sorry, August 18th of last year, but how long  
8   it took them to send materials I don't know.

9           Q    It could have been a year before that?

10          A    No, I don't think so. I think it was pretty  
11   close to it. That's what usually happens.

12          Q    But you don't have that document?

13          A    Well, there's no document. Somebody calls  
14   me on the phone and says do you have time and I  
15   never write that stuff down because most of the time  
16   there is no followup with it.

17          Q    When did you come to your first opinions on  
18   this case?

19          A    I mean, after I reviewed the material. I  
20   couldn't tell you what day it was.

21          Q    Do you have notes from when you reviewed the  
22   material?

23          A    I do.

24          Q    Did you date your notes?

25          A    No, I never do.

1           **Q**   How come you don't date them?

2           **A**   No reason to. It doesn't matter to me what  
3   day I do it. The ends result is what matters to me.

4           **Q**   What about if you view additional  
5   information, would that change your opinion?

6           **A**   Of course.

7           **Q**   You don't want to keep dates as to when you  
8   reviewed materials and when you didn't?

9           **A**   No. That doesn't do me any good.

10          **Q**   Okay. Tell me what you reviewed before you  
11   arrived at your opinions?

12          **A**   I had the death certificate, the autopsy  
13   report, medical records from Christian Hospital, the  
14   Ferguson Police Department records, statements by  
15   Fatima Shurn, Alan Schilling, TASER firing data, the  
16   first amended consolidated complaint, the amended  
17   case management order, photographs, documents from  
18   TASER, depositions of Brian Kaminiski, Michael  
19   White, Matthew Bebe, Jon Brannan, William Ballard,  
20   Delores Moore, Tina Moore, Renee Rodgers, Anthony  
21   Rice, Dr. Cuculich, Shannon Dandridge, Claudette  
22   Boyce-Rice, expert reports by Dr. Cuculich and Ron  
23   Martinelli along with their accompanying documents.  
24   Dr. Cuculich's power presentation or power point  
25   presentation and Plaintiff's Rule 26 Disclosures.

1           Q    I didn't see your billing records in the  
2   file.  Could you pull those up for me?

3           A    Sure.  Right there.

4           Q    How much have you billed so far in the case?

5           A    Seven and a quarter hours.

6           Q    Now, did you read all the depositions?

7           A    You know, I glanced at some of them.  Some  
8   talked about his, you know, kind of family life and  
9   stuff like that which really had nothing to do with  
10   what I did, so I didn't read parts like that.

11          Q    Do you know Mike Brave?

12          A    I do.

13          Q    And who is he?

14          A    He's a lawyer for TASER.

15          Q    Do you know Patrick Smith?

16               MR. DOWD:  Rick Smith.

17          A    Oh, Rick Smith, yeah, I do.

18          Q    And who is he?

19          A    He used to be president of TASER.

20          Q    And have you spoken with TASER International  
21   or any of their representatives about this case?

22          A    No.

23          Q    Did you speak to -- well, let's go back.

24                       In preparation for this deposition,  
25   what did you do?

1           **A**    I just reviewed my file.

2           **Q**    And in addition to the documents that you've  
3    listed there, have you spoken to anybody that's not  
4    included in your document list there?

5           **A**    No.

6           **Q**    Have you spoken to anybody about this case  
7    other than Peter Dunne or your attorneys?

8           **A**    I don't think so.

9           **Q**    Have you spoken to Officer Kaminski?

10          **A**    Oh, no. I know I have not spoken to any  
11    police officers at all.

12          **Q**    Have you consulted with any cardiologists on  
13    this case?

14          **A**    No.

15          **Q**    Have you consulted with any cardiac  
16    electrophysiologists?

17          **A**    No.

18          **Q**    Have you contacted or spoke with, is it Dr.  
19    Sabharwal? What's his name in St. Louis County  
20    Medical Examiner's Office?

21          **A**    Oh, Sabharwal?

22          **Q**    Yeah, Sabharwal. Have you spoken with him?

23          **A**    You know, I may have mentioned that I was  
24    looking at one of his cases, but I didn't discuss it  
25    with him.



1           **Q**    You haven't consulted with any other  
2   physicians, is that what you're telling me?

3           **A**    I haven't consulted with anybody on this  
4   case.

5           **Q**    All right. And there's some mention in your  
6   report about agitated delirium and psychosis, so  
7   when we talk about agitated delirium, we probably  
8   should talk about excited delirium, too. Are those  
9   two --

10          **A**    I think it's the same thing.

11          **Q**    Okay. What is agitated delirium?

12          **A**    It's a syndrome characterized by  
13   intermittent excessive agitation, often anxiety,  
14   often violence.

15                   In many cases hyperthermia, but  
16   certainly not the majority at least in this area of  
17   the country. Often paranoia generally induced by  
18   stimulants, but occasionally seen in the setting of  
19   psychosis.

20          **Q**    How common is agitated delirium?

21          **A**    I think it depends on the definition that  
22   you use and then how strict your criteria are. If  
23   you look at people brought into emergency  
24   departments by the police, it's actually fairly  
25   common. The full blown syndrome is fairly unusual.

1           **Q**    But individuals that are brought in by  
2    police with at least some level of agitated delirium  
3    is pretty common?

4           **A**    Yeah. That's what the current literature  
5    would indicate, yeah.

6           **Q**    And you having been involved and being  
7    involved in police custody, arrests slash death  
8    cases, it's almost mandatory for you to become  
9    familiar with agitated delirium and excited  
10   delirium. Is that a fair statement?

11          **A**    We've been familiar with it for 35 years.

12          **Q**    And you would agree that it's next to  
13   impossible for a police officer to expect to conduct  
14   his daily activities and not come in contact or have  
15   to deal with an agitated delirium situation?

16                MS. SHAFIAIE: Objection to foundation. You  
17   can answer.

18          **A**    I don't know that that's true. Yeah, I  
19   don't know if that's true or not.

20          **Q**    (By Mr. Floyd) Well, with you having told  
21   me how common it is and how you've been dealing with  
22   it for 35 years, if an officer is gonna -- let's  
23   take it a step further.

24                   I mean, a police department should  
25   certainly be prepared to deal with that condition,

1 wouldn't you agree?

2 MS. SHAFIAE: Form and foundation. You can  
3 answer.

4 Q (By Mr. Floyd) Based upon the frequency in  
5 which it comes up for your testimony?

6 MS. SHAFIAE: Same objection.

7 A Well, what a police department should or  
8 should not do I'll leave up to the police experts.

9 Q (By Mr. Floyd) But you would agree that you  
10 can expect them to come -- to come into contact  
11 with agitated delirium situations?

12 MS. SHAFIAE: Same objection.

13 A Large municipal police departments or large  
14 urban departments I would expect the department to,  
15 the individual officer most probably don't.

16 Q (By Mr. Floyd) I mean, would you agree that  
17 a police department would have to pretty much have  
18 their head buried in the sand not to have heard  
19 about excited delirium or agitated delirium over the  
20 last twenty years?

21 MS. SHAFIAE: Same objection.

22 A Probably in the last few years that's true.  
23 Prior to that, especially a small police department,  
24 maybe not.

25 Q (By Mr. Floyd) And you would agree there

1 are cases in the Eighth Circuit that go back to the  
2 1990s dealing with agitated and excited delirium.

3 Would you agree with that?

4 MS. SHAFIAIE: Foundation.

5 A I have no idea what's in the Eighth Circuit.  
6 I don't even know where the Eighth Circuit is.

7 Q (By Mr. Floyd) When did -- when did you  
8 first give testimony in a case about excited  
9 delirium or agitated delirium, what year?

10 A I have no idea.

11 Q Would it have been the 1980s?

12 A We certainly recognized it in the '80s, I  
13 don't know if I ever testified about it back then,  
14 be we certainly recognized it then.

15 Q You would have certainly testified about it  
16 in the last 20 years, wouldn't you?

17 A Yes.

18 Q And in the last twenty years you would have  
19 -- even twenty years ago you would have attributed  
20 deaths in police custody to excited delirium or  
21 agitated delirium, wouldn't you?

22 A Yes.

23 Q And you've been doing that for twenty years,  
24 correct.

25 A More than twenty.

1           **Q**   And you work closely with police  
2   departments, right, in dealing with deaths?

3           MS. SHAFIAE: Foundation.

4           **A**   We're an independent agency. I mean, we  
5   obviously work with investigators from the police,  
6   but we're not part of the police.

7           **Q**    (By Mr. Floyd) But they have to communicate  
8   with you, correct?

9           **A**    Sure.

10          **Q**   And so there's a level of communication  
11   between the medical examiner's office and the  
12   various police departments, fair statement?

13          **A**    Fair statement.

14          **Q**   And you've communicated to police officers  
15   your understanding of excited delirium and agitated  
16   delirium, have you not?

17          **A**    I have.

18          **Q**   You've lectured over it?

19          **A**    I have.

20          **Q**   This information is widely available for any  
21   police department if they want to obtain it,  
22   correct?

23          MS. SHAFIAE: Foundation.

24          **A**    I don't know how widely distributed it is  
25   among the law enforcement literature. I know it is

1 in the law enforcement literature, but I don't know  
2 to what extent. It's also in the medical literature  
3 that most police departments aren't real rigorous in  
4 looking at the medical literature.

5 Q (By Mr. Floyd) Is that responsible?

6 MS. SHAFIAIE: Foundation.

7 A I don't -- I mean, any more than I would  
8 look at or know the law enforcement literature, I  
9 don't expect them to know the medical literature.

10 Q (By Mr. Floyd) Knowing what you know and  
11 I'm taking into consideration that you've been  
12 testifying in legal cases for better than 30 years,  
13 if you were running a police department, would you  
14 want your police officers to be knowledgeable about  
15 agitated and excited delirium?

16 MS. SHAFIAIE: Form and foundation.

17 A Yes.

18 Q (By Mr. Floyd) Okay. No question about it,  
19 is there?

20 A Not really.

21 Q And if you Google excited delirium or  
22 agitated delirium, your result screen will just be  
23 full of articles and stories, correct?

24 MS. SHAFIAIE: Same objection.

25 A I have no idea. Never done it.

1           **Q**       (By Mr. Floyd) What is the psychosis that  
2       you're referring to in your January 28, 2016 report?

3           **A**       People who are psychotic can develop  
4       agitated delirium without the use of exogenous  
5       agents.

6           **Q**       Dr. Sabharwal, is that how you say his name?

7           **A**       Sabharwal.

8           **Q**       Sabharwal.

9           **A**       Uh-huh.

10          **Q**       Dr. Sabharwal reported that cause of death  
11       was agitated delirium and you say that cause of  
12       death was, and maybe you had the same cause of  
13       death.

14                   Cause of death as agitated delirium  
15       secondary to psychosis, is that right?

16          **A**       Yes.

17          **Q**       Can you describe for me or explain to me the  
18       mechanism of death from agitated delirium secondary  
19       to psychosis?

20          **A**       The mechanism through which excited delirium  
21       kills people isn't clear yet, whether it is  
22       primarily a central mediated event or a metabolic  
23       perturbation isn't known.

24          **Q**       You were asked back in 2009, at least that  
25       far back almost seven years ago in court, to

1 describe the mechanism of death from agitated  
2 delirium and at that time you were not able to  
3 describe the mechanism of death, is that correct?

4       **A**    Yeah, we still don't know.

5       **Q**    You had seven years to work on it and you  
6 still don't have an answer?

7       **A**    Collectively, you really can't work on it  
8 because there is no good laboratory model to use to  
9 try to study it and you certainly can't study it on  
10 humans.

11       **Q**    As a pathologist, can you put your finger on  
12 one piece of pathology that supports that Mr. Moore  
13 died from agitated delirium secondary to psychosis?

14       **A**    Well, certainly you would never give a cause  
15 of death opinion in somebody by looking just at one  
16 thing and taking it out of context. The context of  
17 this particular death is fairly typical of an  
18 agitated delirium related death.

19       **Q**    And what is that?

20       **A**    In that you have somebody who shows signs of  
21 agitated delirium typically is forcibly restrained  
22 and then shortly thereafter has a cardiorespiratory  
23 arrest.

24       **Q**    Do you believe that the TASER discharge  
25 captures and disrupts heart rhythm, that it can?



1           **A**    It can.

2           **Q**    And we discussed what cardiac capture is.

3                   Does cardiac capture cause a heart to  
4 go into ventricular fibrillation?

5           **A**    No. The energy needed for fibrillation is  
6 stronger than that needed for capture.

7           **Q**    Explain that to me.

8           **A**    It takes more power or more energy, more  
9 electrons or more charge, probably the better term,  
10 to induce v-fib than it does to just cause capture.

11          **Q**    Okay. So if a heart has an electrical  
12 insult, whether it be from touching a 220-volt hot  
13 wire some type of an electrical insult --

14          **A**    Okay.

15          **Q**    -- that interferes with the rhythm of the  
16 heart, can that result in ventricular fibrillation?

17          **A**    I mean, your parameters are too vague, but  
18 you can supply enough energy to the heart to cause  
19 ventricular fibrillation. That's what electrocution  
20 is.

21          **Q**    Well, electrocution can cause ventricular  
22 fibrillation, correct?

23          **A**    Electrocution, that's the way electrocution  
24 works. It causes v-fib.

25          **Q**    And we'll call it v-fib instead of

1 ventricular fibrillation. It's shorter that way.

2 With regard to what cardiac  
3 electrophysiologists do, they can actually use  
4 electrical energy to cause a heart to go into v-fib,  
5 correct?

6 **A** Do it every day.

7 **Q** And they can use electrical energy to get a  
8 heart out of v-fib, correct?

9 **A** They do it every day.

10 **Q** And the electrical energy applied to the  
11 heart is directly related to v-fib. Do you agree  
12 with that?

13 **A** If you supply enough energy it is. If you  
14 don't, then it won't. But there are thresholds for  
15 the human heart below which it won't fibrillate, and  
16 if you give it enough energy in the right manner,  
17 then it can, sure.

18 **Q** Are there doctors that disagree with you as  
19 to the level of energy necessary to induce a v-fib?

20 **A** I wouldn't know. I mean, that is pretty  
21 well into the cardiac literature as to how much  
22 charge it takes.

23 **Q** And electro -- a cardiac electrophysiologist  
24 would be certainly within his area of specialty to  
25 answer that question, would he not?

1           **A**    I would think so.

2           **Q**    Okay. And when we talk about v-fib just for  
3 the jury, can you tell us what v-fib is?

4           **A**    It's basically that the muscle fibers are no  
5 longer contracting in an organized fashion. The  
6 muscle fibers still contract on their own, but they  
7 have no organized rhythmic contractions, so they're  
8 just -- basically it sits there and quivers.

9           **Q**    And from a lay person's understanding, I  
10 understand that is it the myocardium in the heart  
11 that produces electrical pulse?

12          **A**    No. The myocardium --

13          **Q**    What part produces the electrical pulse?

14          **A**    Well, each cardiac muscle fiber is capable  
15 of beating on its own. That is what cardiac or  
16 heart muscle fibers can do. The myocardium is the  
17 heart muscle fibers.

18          **Q**    Okay.

19          **A**    The organized rhythmic beating of the heart  
20 is related to the generation of electricity by  
21 usually the sinoatrial node and then that's  
22 modulated by the atrial ventricular node, and then  
23 as the current passes through there, it then goes to  
24 the working myocardium where basically it tells all  
25 the fibers when to contract.

1           **Q**   And this electrical pulse that's created by  
2   the heart, that causes a contraction in the heart  
3   and causes the heart to pump?

4           **A**   It causes the -- a coordinated contraction.  
5   I mean, if you just take heart muscle fibers and,  
6   you know, put them in a jar, they'll contract all by  
7   themselves. They have the innate ability to do  
8   that, but it wouldn't be in organized fashion and  
9   you'd need an organized contraction.

10          **Q**   And so this electrical pulse and the heart  
11   rhythm that's an organized contraction of the  
12   electrical pulse causing the heart to contract which  
13   pumps blood through the valves, correct?

14          **A**   Correct.

15          **Q**   Okay. And when someone gets in v-fib, that  
16   means that, and this is layman's terms, that that  
17   rhythm has been disrupted and it could be almost  
18   spasming or quivering and the heart is not getting  
19   pumped to the blood?

20          **A**   The -- it's not just the disruption of the  
21   rhythm. There are lots of ways you can disrupt the  
22   rhythm. Some of them may be --

23          **Q**   Knocked out of rhythm. The rhythm has been  
24   changed?

25          **A**   Yeah. Basically, you have no rhythm

1 anymore.

2 Q Okay. So you have an uncoordinated event?

3 A You have uncoordinated contraction of the  
4 muscle.

5 Q Uncoordinated contraction. And I've read  
6 and seen and heard the term that they are just kind  
7 of quivering?

8 A That's correct.

9 Q And that since it's not coordinated, the  
10 blood is not getting through the heart?

11 A That's correct.

12 Q And that's what v-fib is?

13 A That's what v-fib is, yeah.

14 Q Okay. And atrial fibrillation, that happens  
15 in a different part of the heart and it's not really  
16 that dangerous.

17 Is that a fair statement?

18 A I mean, it's a substantial risk factor for  
19 stroke if the person isn't treated --

20 Q Because of --

21 A -- again the coagulants.

22 MS. SHAFIAIE: Let him finish. Go ahead.

23 A Yeah. Yeah, the atria are the receiving  
24 chambers of the heart, they are the upper chambers.  
25 In someone who is otherwise healthy, they don't add

1 a whole lot to the function of the heart, but if  
2 they're not working, you can get eddies and stasis  
3 of blood.

4 And if you get blood clots, then they  
5 can break off and go to the brain or things like  
6 that, which is the real danger of atrial  
7 fibrillation. For somebody with a compromised  
8 heart, atrial fibrillation can be detrimental, but  
9 it certainly doesn't carry the import of ventricular  
10 fibrillation.

11 Q So when we're talking about v-fib and  
12 a-fib---

13 A Totally different things.

14 Q -- totally different things?

15 A Yes.

16 Q V-fib is very dangerous?

17 A Oh, yeah.

18 Q Lethal, correct?

19 A Lethal unless you are somewhat taking over  
20 for the circulation. Well, without therapy or some  
21 other intervention, yes, it's lethal.

22 Q So interfering with the coordinated rhythm  
23 of the electrical heart beat can lead to v-fib?

24 A I don't know that that's necessarily  
25 correct. I mean, the v-fib is an uncoordinated

1 beating of the heart in and of itself.

2 Q I was saying interfering with the  
3 coordinated heart beat?

4 A It depends on whether it's -- you have  
5 sufficient incoordination to lead to v-fib. You can  
6 certainly have all kinds of heart rhythm  
7 disturbances that don't lead to v-fib.

8 Q What's the most common things to cause a  
9 heart rhythm disturbance?

10 A I mean, it depends on how you define  
11 disturbance. Just getting excited can disturb your  
12 heart. It beats faster.

13 Q How about where the rhythm is off?

14 A I don't know what the most common is.

15 Q Would you agree that a cardiac  
16 electrophysiologist would know, should no?

17 A Cardiologists, I'm not sure. Usually the  
18 cardiac electrophysiologist by the time somebody  
19 gets to them, something other than just very minor  
20 is going on, so cardiologist. And, so yeah, cardiac  
21 electrophysiologist or cardiologist, they should  
22 know, yeah.

23 Q Have you written any peer-reviewed articles  
24 related to heart function?

25 A To function, no. To sudden death related to

1 the heart, yes.

2 Q But you haven't written any peer-reviewed  
3 articles related to heart function?

4 A I mean, other than the fact when it doesn't  
5 function, but as far as how it normally functions,  
6 no.

7 Q You don't treat patients for heart problems,  
8 correct?

9 A You know, I do look at heart biopsies from  
10 mostly transplant patients or patients in heart  
11 failure to try to figure out why they're having  
12 problems or if they're going to have problems, but  
13 as far as seeing living patients and ordering  
14 diagnostic tests and treating them, no, I don't.

15 Q You don't treat heart problems?

16 A No, I don't.

17 Q What kind of a specialist treats heart  
18 rhythm problems?

19 A Internist is probably the most common and  
20 then, if they're having problems, probably a general  
21 cardiologist and then maybe a cardiac  
22 electrophysiologist.

23 Q Is that the order of expertise?

24 A That's the order of more sophistication  
25 probably, yeah.



1           **Q**   And you don't perform surgeries to treat  
2   heart conditions, is that correct?

3           **A**   Correct.

4           **Q**   From a cardiac electrophysiological  
5   standpoint, can you describe to me the mechanism by  
6   which a human heart is paced into sinus rhythm after  
7   it's in v-fib?

8           **A**   Usually you deliver an electrical shock to  
9   the heart which restores the rhythm. It's called  
10   defibrillation.

11          **Q**   Can you describe how a human heart is paced  
12   out of sinus rhythm and into v-fib?

13          **A**   In the cardiac cath lab they administer  
14   electricity to the heart with electricity or usually  
15   in the heart although you can do transthoracic.

16          **Q**   Okay. So when they are wanting to get the  
17   heart into v-fib, they do it by electricity?

18          **A**   Usually, yeah.

19          **Q**   Okay. Do you agree that v-fib is the  
20   signature heart rhythm found on a monitor after an  
21   electrical insult to the heart?

22          **A**   For what we usually see with common  
23   electrocutions, yes, it is. For things like  
24   lightening, no, but that's not really an issue here,  
25   but that's the rhythm you would expect, electrically

1 induced.

2 Q Do you agree that v-fib is the most likely  
3 heart rhythm to be found on a monitor after a  
4 cardiac capture?

5 A After capture, no.

6 Q You don't?

7 A No.

8 Q Have you had any training in the use of  
9 TASERS?

10 A Not formally, no.

11 Q Have you performed any studies involving  
12 TASERS?

13 A Some studies on the appearance of TASER  
14 injury under the microscope, yes.

15 Q Tell me about those.

16 A Looked at various biopsies from both the  
17 drive study and the probe deployments to see what  
18 the characteristics were both fresh and healing.

19 Q Have you published any articles?

20 A I have.

21 Q Can you -- do you have a list of those  
22 articles regarding TASERS?

23 A I don't know if I have a list. I can -- one  
24 is a book chapter in the atlas of -- I can't  
25 remember the name of the full name of the book. It

1 really has nothing to do with what we're doing here  
2 today. It describes, but then there's an article  
3 that I wrote about arrest-related deaths that's in  
4 Academic Forensic Pathology that discusses  
5 electronic-controlled devices.

6 Q Is that listed on your CV or your list --

7 A It's on my CV. Or it's on my CV yeah, if  
8 you want a copy, I'll give you a copy.

9 Q Okay. Do you understand that the TASER that  
10 was used on Jason Moore was the TASER X26?

11 A Yes.

12 Q And that was manufactured by TASER  
13 International?

14 A Presumably, yeah.

15 Q Which is the company that you're on their  
16 advisory board that we talked about before, correct?

17 A On their scientific advisory board, yes.

18 Q Did you know that the TASER X26 discharges  
19 50,000-volts of electrical current on the first  
20 pulse of each cycle?

21 A The 50,000-volts is the air gap of voltage.  
22 That's not what is administered to a person.

23 Q But it produces the 50,000-volts?

24 A Through an air gap, yeah.

25 Q And that's what the literature says?

1           **A**     Sure.

2           **Q**     And then the volts that come after that, do  
3     you know what the voltage is on the pulses after  
4     that?

5           **A**     The average delivers about 400. I think the  
6     literature reflects somewhere between 4- and 600 per  
7     pulse.

8           **Q**     How many volts are there if you grab a 110  
9     outlet?

10          **A**     One-tenth.

11          **Q**     Okay. So this would be over six times what  
12     you'd get from touching an outlet?

13          **A**     I don't know. If you want to look at it  
14     that way, it's -- you can go out to the Magic House,  
15     and if you want to touch a million volts, you can do  
16     that.

17          **Q**     Are you suggesting that four to six hundred  
18     volts of electricity is not harmful?

19          **A**     It depends on what the charge is.

20          **Q**     Are you --

21          **A**     Well, you're looking at current charge. The  
22     voltage itself isn't what hurts you, it's the  
23     current, the charge. And I mention that million  
24     volts, because if you see those Van De Graaff  
25     generators that all the little kids touch and their

1 hair stands on end, that's a million volts and  
2 they're not getting hurt.

3 Q I read something about 1,200 and  
4 1,400-volts, have you heard any of that associated  
5 with TASERs?

6 A No.

7 Q What's the charge with the TASER?

8 A Let's see, charge about 2.1-milliamps -- or,  
9 I'm sorry, that's charge, no not the current. The  
10 charge somewhere between 85 and 100 microcoulombs.

11 Q What's the charge from a 110 outlet?

12 A I think it's about 14 amps. Oh, I'm sorry,  
13 that's the current. The charge I would have to  
14 figure it out. I don't remember what it is.

15 Q Would you agree that this isn't your area of  
16 expertise, electrical physics?

17 A I'm not an expert in it. Yeah, I understand  
18 the basics of it, but I'm not a physicist.

19 Q So you're not going to dispute the  
20 literature from TASER International that says that  
21 the first volts -- volt produces 50,000-volt charge,  
22 is that correct?

23 A That's the -- well, voltage isn't charge,  
24 but the voltage is that's the air gap.

25 Q But their literature is correct in what it

1 states, correct?

2 A As far as I know, yeah, you can get  
3 50,000-volts.

4 Q Okay. And was there a burn mark on Mr.  
5 Moore's chest where one of the TASER probes was in  
6 his chest?

7 A You know it was described as that. I'm not  
8 sure that it was really a burn or whether it was  
9 just an abrasion from the hub striking.

10 Q So do you think the St. Louis County Coroner  
11 made a mistake on that?

12 A I mean, I haven't seen any microscopic  
13 slides of it and I don't think I've seen a high  
14 quality photograph of it.

15 Q Is there any reason for you to doubt his  
16 finding?

17 A Not particularly. I mean, it's irrelevant  
18 either way.

19 Q Well, I mean, we're talking about how  
20 powerful the charge are, so I just thought well if  
21 it burned his skin and it left a big burn mark on  
22 his chest, I thought that might be relevant.

23 A Well, there's certainly no big burn mark on  
24 the chest. There's what looks like either an  
25 abrasion or there could be a little burning of the

1 epidermis, but that's neither here nor there.

2 Q That's not important?

3 A That's not so important.

4 Q Okay. What's more important is that he's  
5 deceased.

6 Would you agree with that?

7 A Yes.

8 Q Have you read any studies on a person's  
9 ability to comprehend verbal commands while they are  
10 receiving electrical shock to their body from a  
11 TASER X26?

12 A During, no.

13 Q So you have no reason to dispute that, if  
14 police experts that have conducted studies testified  
15 that it's very difficult to understand verbal  
16 commands while you are under TASER load, you  
17 wouldn't have any reason to dispute that?

18 A I'd have to see the studies.

19 Q But as you sit here right now, you have no  
20 reason to dispute it?

21 A I don't have any basis to agree or disagree  
22 with it.

23 Q Well, you're a doctor and you deal with  
24 police custody cases and deaths and you're an  
25 adviser for TASER, so I'm assuming that you have a

1 lot more knowledge than the average person does, and  
2 with your involvement in these types of cases for 15  
3 to 30 years, I just thought it was a relevant  
4 question to ask and with everything that you have,  
5 all the knowledge that you've acquired at this  
6 point, there is nothing there to dispute that  
7 statement I made, is there?

8 MS. SHAFIAIE: Object to form.

9 A I would have to see what studies you're  
10 talking about and see what they say.

11 Q (By Mr. Floyd) Just the conclusion, that  
12 while an individual is under load from a TASER X26,  
13 that it's very difficult for them to understand  
14 verbal commands?

15 A I'm not sure that that's necessarily  
16 correct. I mean, I certainly could understand  
17 everything going on while I was tasered.

18 Q You don't want to agree with that?

19 A I mean, from my persona perspective as I  
20 knew what was going on when I was getting tasered.

21 Q Were people making statements to you and  
22 talking to you while you were being tasered?

23 A I don't know if they were talking to me, but  
24 I certainly knew exactly what was going on.

25 Q But you weren't -- you weren't tested where



1 someone made verbal statements to you or read  
2 numbers or gave you commands and then afterwards  
3 asked you to repeat what those were?

4 A That's correct.

5 Q You weren't in a scientific test, correct?

6 A That's correct.

7 Q Okay. And you're not trying to say that  
8 that stands for some type of proposition as to what  
9 you can and can't understand on a verbal command  
10 while you are under a TASER X26 load?

11 MS. SHAFIAIE: Form.

12 A Right. You have to look at the science.

13 Q (By Mr. Floyd) Particularly, if someone is  
14 already in an emotional agitated state, correct?  
15 That would be different than the state that you were  
16 in when you were tased?

17 A Yes, I was definitely not in agitated  
18 delirium.

19 Q And are you aware of any studies where  
20 people who have been in an agitated delirium state  
21 have been tased in the chest with a TASER?

22 A Studies?

23 Q Yes.

24 A No, you could never do that.

25 Q Okay. But there are no studies like that,

1 are there?

2 **A** Well, you could never do a study like that.

3 **Q** Whether you could or couldn't, there just  
4 are none, correct?

5 **A** Yeah. I mean, you couldn't and there are  
6 none.

7 **Q** And I always like to say, when we talk about  
8 studies, it's kind of like polls, you know,  
9 comparing apples and oranges. If you take a  
10 healthy, relaxed or even mildly fatigued person and  
11 you tase them and say, look there, he did just fine.  
12 I tased him in the leg, I tased him in the back,  
13 versus take someone who is in the condition that  
14 you've described excited delirium or agitated  
15 delirium with a chemical process going on their  
16 brain, they have anxiety, they're paranoid, you tase  
17 them in the chest over the heart and you hit them  
18 four times in rapid succession.

19 That's going to have a different  
20 effect on that individual potentially than it would  
21 on an otherwise healthy calm individual. Fair  
22 statement?

23 **A** No. You can't say it's going to have a  
24 different effect. You have to try to study it, but  
25 you can't say that it's going to have an effect.

1           **Q**   But you don't have any studies one way or  
2   another on the proposition, do you?

3           **A**   No. You certainly can't study agitated  
4   delirium patients in a formalized study and do  
5   anything to them. You will never have that until  
6   you get an animal model for the disease process or  
7   for the process, and so you have to extrapolate from  
8   other things.

9           **Q**   You can theorize though, correct, without  
10   the studies?

11          **A**   Theorizing doesn't do you any good. You've  
12   got to test it.

13          **Q**   And getting to that point then let's go back  
14   to your report because you made a statement in your  
15   report that kind of maybe I thought that that's what  
16   you were suggesting. It was on page four of your  
17   report and you indicate that. It's the last  
18   sentence in the second paragraph.

19                   "However the emotional response to  
20   sustaining a TASER discharge, notably the response  
21   to pain, is highly individualized and in some  
22   individuals could conceivably add to whatever  
23   emotional stress was already present," true?

24          **A**   True.

25          **Q**   Were you suggesting that that could in some

1 way contribute to someone in an agitated state  
2 dying?

3 A It's possible.

4 Q Okay. Which is sort of related to why I was  
5 asking that question about there are no tests on  
6 people with agitated delirium, correct, with tasing?

7 A Correct.

8 Q Okay. Did you read the report of Christine  
9 Keim, the forensic investigator?

10 A I don't know if I -- yeah, I probably did  
11 actually.

12 Q Okay. Pardon me while I go through.

13 First of all, do you know who  
14 Christine -- do you know Christine Keim?

15 A Peripherally. I mean, she's an investigator  
16 at the county office.

17 Q What is a forensic investigator?

18 A It's an investigator for the medical  
19 examiner's office.

20 Q Okay. And so can you tell me what she does?

21 A Collects information about death cases.

22 Q Okay. And who pays her?

23 A St. Louis County.

24 Q Do you know what kind of credentials she  
25 needs to have that job?

1           **A**    I don't know what her credentials are.

2           **Q**    She documents statements that she took from  
3   Officer Ballard.

4                   Did you see those statements?

5           **A**    I don't recall.

6           **Q**    I kind of highlighted -- let's see. I've  
7   kind of highlighted the section. We don't have to  
8   read it out. I just want you to look at it first.

9           **A**    Okay.

10          **Q**    I'll give you a second to look at it.  
11   That's the only portion. There might be a little  
12   bit on the next page. That's the only portion I'm  
13   going to ask you about.

14          **A**    Okay.

15          **Q**    So she gives a statement. Let's see. She  
16   says, "I contacted Ferguson Police and talked with  
17   Lieutenant Ballard" and I'm reading from the St.  
18   Louis County Health Records from Christine Keim,  
19   that's K-E-I-M, forensic investigator, and I don't  
20   know if it's been marked as an exhibit yet, but  
21   there's an affidavit attached. We can attach it to  
22   this deposition as exhibit -- do you guys know what  
23   number we're on? Exhibit 1 of this deposition.

24                   (Exhibit 1 was marked for  
25                   identification by the court

1 reporter.)

2 Q (By Mr. Floyd) Okay. On the first page, "I

3 contacted Ferguson Police and I talked with

4 Lieutenant Ballard who gave me the following account

5 of his officers encounters with the decedent. At

6 approximately 6:46 a.m., the Ferguson Police

7 Department received numerous 911 calls reporting a

8 black male nude in the area of Hennequin and Airport

9 Road running in the street. Officers responded and

10 found the decedent in the middle of the

11 intersection. As the first officer was getting out

12 of his patrol car, he heard the decedent yelling God

13 is good, glory to God, I am Jesus. The decedent

14 then charged at the officer swinging his arms and

15 his hands were in fists. The officer pulled his

16 TASER, tased the decedent, the decedent fell to the

17 ground. The TASER lasted approximately five

18 seconds. The decedent got up." I'm assuming she

19 means stood on his feet. "And started towards the

20 officer again. The Officer activated his TASER

21 again and the decedent went to the ground. The

22 decedent got up a third time and started at the

23 officer again and the officer activated his TASER.

24 The decedent fell face down this time and stayed

25 down."

1                   Okay. So I wanted to talk to you  
2 about that history because there are different  
3 histories in here, but this is a history that was  
4 given, I suppose, on the night of the event and it's  
5 from Officer Ballard and he's recounting what other  
6 officers told him and it's close in proximity, and  
7 I'm just wanting to compare those statements to  
8 maybe some facts that we have, okay?

9           **A**    Okay.

10          **Q**    Okay. And a couple of things that caught my  
11 attention were that, first of all, without any  
12 provocation, it appears that the history they gave  
13 is that Mr. Moore just charged the officer, but  
14 we've seen Officer Kaminiski's notes that he saw Mr.  
15 Moore standing in a parking lot and he made the  
16 first contact with Officer Moore (sic) and told him  
17 to put his hands up, come towards him or get down or  
18 he gave him some commands and it was after that that  
19 Mr. Moore reacted.

20                   Is that what you remember from the  
21 police report?

22          **A**    Yes.

23          **Q**    Okay. And then the other thing that caught  
24 me is that she describes that Officer Kaminski tases  
25 Mr. Moore, knocks him to the ground and then Mr.

1 Moore gets up and charges him.

2 I don't ever remember Kaminiski ever  
3 saying that Mr. Moore got up and charged him, but  
4 that's what she says there, correct? She said that  
5 happened twice?

6 **A** Yes.

7 **Q** Okay. So with that in mind, Officer  
8 Kaminiski also testified in his deposition that he  
9 understands the law to be that he's not allowed to  
10 give somebody, you know, to apply force to somebody  
11 without having a legal justification, so after the  
12 first tase he said the guy charged me, Mr. Moore  
13 charged me so I tased him, but before I gave him  
14 that second tase, I gave him commands to stay down,  
15 stay down and it's in the deposition. He says he  
16 gave him multiple commands to stay down and that  
17 there was a gap in between the first tase and the  
18 second and a gap between the second and third and so  
19 forth.

20 But in this one it's a little  
21 different history given early on and I just want to  
22 make sure because I wouldn't want this history being  
23 presented without being vetted out to see if it's  
24 realistic or not because it's different, and I think  
25 the jury needs to hear about all histories to



1 determine, you know, if there is something wrong  
2 with them, or if there is, why. And in this  
3 situation she's describing Mr. Moore getting up and  
4 charging, and I want to bring your attention to  
5 something that we acquired which I know you've seen  
6 and it's the TASER download. Have you seen that?

7 MS. SHAFIAIE: Object to form and foundation  
8 on that prior narrative.

9 Q Do you have a -- did you -- do you have a  
10 copy of the TASER download?

11 A No, not that I can put my hands on.

12 Q I think in your notes you had the notes  
13 of it. I think I saw in your notes you had the  
14 notes with the timing on it.

15 A Right.

16 Q Okay. So let me see if I have it here. I'm  
17 looking for the one that had the TASER. Okay. I'm  
18 going to hand you what's been marked as Plaintiff's  
19 Exhibit 36. This is from TASER International, and I  
20 guess this is where I got the, you know, the 1,400  
21 to 2,520-volts. Take a look at that first page and  
22 we will hit two issues here.

23 Does that help you in understanding  
24 what the peak load --

25 A The peak load and main phase voltage?

1           **Q**   Yeah.  It's 1,400 to 2,520 volts.

2           **A**   Right.  Those are the specifications.

3           **Q**   And pulse rate gives 16-1/2 to 20 pulses per  
4   second?

5           **A**   That's what the specs are.  I think it's --  
6   it should be 19 pulses per second.

7           **Q**   Okay.  And then let's move on to the other  
8   page which is, I guess, it says it's page 1 of 36.  
9   It's really like three pages into it.  It indicates  
10   when it gets into the download, it's talking about  
11   the activation log and download analysis, and I  
12   understand that this is actually some type of a  
13   computer chip in the weapon itself that keeps a  
14   record in sequence of when the gun was discharged,  
15   how many volts it let out, how long it was  
16   discharged, and how much time there was in between  
17   the last discharge and the next discharge, is that  
18   accurate.

19          **A**   It can't tell you how many volts a  
20   particular person got, at least with the current --  
21   or with the technology back then, but it does tell  
22   you what the output of the device is when the  
23   trigger was pulled using the internal clock which  
24   may not be accurate or synchronized with everything  
25   else, and then how long the duration of the

1 discharge, but it doesn't tell you at least in the  
2 older stuff whether it was actually current flowing  
3 through the probes.

4       **Q** And let's be clear about the accuracy  
5 statement. The clock, I indicate that it says it  
6 can have some floating or something, but when it  
7 says that there was a -- that when it says that the  
8 blast was five seconds, or there was one second in  
9 between the tase, now that information doesn't have  
10 any accuracy problems, does it?

11       **A** That's correct.

12       **Q** Okay. Now, there is also, and I know with  
13 your involvement with TASER, I'm assuming you're  
14 familiar with this that the activation durations  
15 recorded in the activation logs are rounded up to  
16 the next second after ten milliseconds.

17                   Do you understand that?

18       **A** Yes.

19       **Q** Tell me what you understand about that.

20       **A** Basically, if you say it's five seconds, it  
21 actually may be 4 point something seconds.

22       **Q** Okay. And if there's a second in between  
23 the tases, let's say that Mr. --Officer Kaminiski  
24 tases Mr. Moore and it says that he's got a five or  
25 six second tase, and then the next tase it says

1 there's a second in between that tase and the next  
2 one. That would mean that's the most that there  
3 could have been in between, correct? Because if it  
4 was a half a second in between the tases, it would  
5 have just rounded it up to a second?

6 **A** No. It could be a little over a second  
7 actually, because it --

8 **Q** And then it would round it up to two  
9 seconds.

10 **A** No, not if you're within the before the  
11 rounding up period comes over.

12 **Q** That's only one millisecond.

13 **A** Well, nevertheless theoretically, it could  
14 still be for realistically it could still be a  
15 second. It doesn't have to be less than that.

16 **Q** Okay. But it could be less than a second?

17 **A** It could be less than a second.

18 **Q** More likely less than a second than more  
19 than a second according to odds, figures and numbers  
20 and math?

21 **A** I mean, when you look at a particular case,  
22 you can't tell.

23 **Q** Okay. But you would agree that, if there  
24 was a half second in between the first tase and  
25 second tase, that this device is going to round it

1 up to a second?

2 **A** That's my understanding.

3 **Q** Okay. So let's take a look at the actual  
4 download then which is on page two of it and it  
5 shows, and I know you've review this.

6 It was in your notes and you're  
7 familiar with this, correct?

8 **A** Yes.

9 **Q** And you know how to interpret it, correct?

10 **A** I think I do.

11 **Q** Okay. So how long was the, you know, there  
12 was the warmup which is line 947. That's when he I  
13 guess was at work and they sparked it in the parking  
14 lot. He testified to that.

15 For the record, can you say yes? I  
16 know you nodded.

17 **A** Okay. Yes.

18 **Q** And then on line 948 it indicates that it  
19 was 6:53:17.

20 How long of duration was that tase?

21 **A** Realistically, probably five seconds.

22 **Q** It says six seconds.

23 **A** It does, but again, it's probably rounding,  
24 because when you actually look at the time, six  
25 seconds doesn't fit.

1           **Q**    It was probably 5.1 or something, correct?

2           **A**    I don't think you can say that. At least,  
3    it's somewhere right around 5.

4           **Q**    But then when does the next tase start? How  
5    much time is there between that tase and the next  
6    tase?

7           **A**    Five seconds.

8           **Q**    Okay. So that tase starts at 6:53:17 and it  
9    goes for six seconds, but there's five seconds till  
10   the next one, correct?

11          **A**    That's why I say it probably didn't go for 6  
12   seconds. It probably went for 5 seconds, or a  
13   little under 5 seconds.

14          **Q**    So looking at this download, how much time  
15   was there from the end of the first tase, until the  
16   second tase again?

17          **A**    Basically, it was sequential.

18          **Q**    So he didn't stop at all, he just kept  
19   going?

20          **A**    He stopped because it doesn't indicate -- it  
21   indicates a second discharge, not a continuous  
22   discharge. But it looks like the output was  
23   consecutive, but if he would have released the  
24   trigger, he would still get a five-second burst. So  
25   it may have been four seconds after he pulled the

1 trigger before he pulled it again.

2 Because, if you pull the trigger  
3 once, you get a five-second discharge.

4 Q Yes.

5 A And release it right away. And so, if then  
6 four seconds later he pulled it again, it's going to  
7 look like it started right after this one, although  
8 the time sequence where the trigger is released  
9 could be another -- could be four seconds.

10 Q I'm asking from the time that he gave him  
11 the first tase and that tase ends, how much time  
12 elapsed before the second load starts?

13 A It's almost continuous.

14 Q Almost continuous?

15 A Although it's not continuous, it's almost  
16 continuous.

17 Q So it's almost continuous which means  
18 there's hardly any time in between the first tase  
19 and when that one ends and the second one starts,  
20 they're almost like rapid succession back to back,  
21 fair statement?

22 A That's what this would indicate, yes.

23 Q And this is from a computer, correct, from  
24 the computer chip?

25 A From the chip, yeah.

1           **Q**    Okay. Now, I bring you back to the  
2           statement from Christine Keim. She describes that  
3           Mr. Moore was tased, he hit the ground, he got back  
4           up. Says he got up and started charging him again.  
5           I mean, that seems unlikely if he had two back to  
6           back tases, doesn't it? That would have to assume  
7           that Mr. Moore was able to get up and stand while  
8           under load?

9           **A**    Yes.

10          **Q**    And that's very unlikely, isn't it?

11          **A**    At least what was described, yeah, it is.

12          **Q**    Very unlikely?

13          **A**    Yeah. If, in fact, the description of him  
14          locking up and falling is true, then it's very  
15          unlikely that it happened like this as in this  
16          report.

17          **Q**    So as a pathologist and a guy who solves  
18          factual disputes as a living, you would have to say  
19          that you've got to call into suspect that history  
20          that's in that forensic investigator's report that  
21          works for St. Louis County, correct?

22          **A**    The details of it, yes.

23          **Q**    Okay. Then we move on to second. We're  
24          into the second tase. He's already been hit once  
25          and now he's -- now we're into -- we talked about



1 the second one.

2 Now that second tase ends. How long  
3 is that second tase?

4 **A** Five seconds.

5 **Q** And then how much time is there between when  
6 that second five -- you know, that second,  
7 five-second load ends before the third one starts?

8 **A** A second.

9 **Q** One second. Now, are you familiar with the  
10 studies that measure when an officer makes the  
11 decision that he's got to pull the trigger from the  
12 time that he decides to pull the trigger, it's the  
13 reaction time and the time for the device to work  
14 when you pull the trigger before it starts to  
15 measure the electricity coming out.

16 Are you familiar with that study?

17 **A** No.

18 **Q** It says it's about a third of a second.

19 **A** Okay.

20 **Q** Okay. So I want you to assume that there  
21 will be evidence in the case of this. If I'm wrong,  
22 I'm wrong and we'll deal with it, but I don't think  
23 I am.

24 But let's assume then, that when  
25 Officer Kaminiski decides I need to pull the trigger

1 again. That, from the time he makes that decision,  
2 he burns up a third of a second. So, if there's  
3 only a second in between the second tase and the  
4 third tase, and if it took him a third of a second  
5 to decide to pull the trigger to get a start, that  
6 would mean that he had two-thirds of a second to  
7 decide what to do, to decide whether from the end of  
8 the second tase until the beginning of the third, he  
9 had two-thirds of a second to decide either I'm  
10 going to pull this trigger or I'm not and he decided  
11 I'm going to pull it.

12 **A** No. He had -- basically, he had almost five  
13 seconds.

14 **Q** Oh, you're saying that's because while he's  
15 under load he's watching him. I'm saying between the  
16 time the load ended because the guy is locked down  
17 on the ground.

18 **A** If that's what's described, that's correct.

19 **Q** Mr. Moore is on the ground shaking in  
20 convulsions from the electrical pulse?

21 **A** No. There is no evidence of that.

22 **Q** Well, that's what Mr. Kaminiski testified  
23 to?

24 **A** Of convulsions?

25 **Q** Well, that he's --

1           **A**    There is no --

2           **Q**    He said he was flopping around on the  
3 ground.

4           **A**    That's not convulsions. That's just  
5 muscular contractions.

6           **Q**    Well muscular contractions. Well, I didn't  
7 mean to mis-describe it medically as like a brain  
8 seizure or something, but he was -- contractions.  
9 He was moving around on the ground as a results of  
10 the effect of the electricity going through him.

11                   So his determination to pull the  
12 trigger a second time is after the second tase is  
13 ended and before the third one started there was one  
14 second?

15           **A**    Well, theoretically, he could have decided  
16 earlier, so he has basically a five-second window  
17 there.

18           **Q**    Sure. What's he basing it on then? There's  
19 a gentleman on the ground under load bouncing around  
20 from the electrical contractions.

21                   What information is he processing  
22 that's telling him whether he needs to pull the  
23 trigger or not?

24                   MS. SHAFIAIE: Form and foundation.

25           **A**    You would have to ask him that. But you're

1 asking me what the time sequence is and there's a  
2 five-second interval in there where he potentially  
3 could pull the trigger again.

4 Q I did ask him and that's why I'm asking you.  
5 Because what he told me in his deposition is that I  
6 gave Mr. Moore multiple verbal warnings after I  
7 ended the tase. I gave him multiple warnings to  
8 stay down, you're going to be tased. Stay down or  
9 you're going to be tased. He said, Mr. Moore began  
10 to get up and that's when I tased him again.

11 And I'm suggesting that, based upon  
12 this TASER download, I don't believe there was  
13 enough time for any of that that happened. Do you  
14 agree?

15 MS. SHAFIAIE: Form.

16 A He had -- while he could have been giving  
17 him orders while he was under load.

18 Q He said they weren't under load, while he  
19 was not under load.

20 MS. SHAFIAIE: Form, foundation.

21 A In that case I agree with you.

22 Q Okay. And we go into the fourth tase. Now  
23 we're getting into the fourth tase. Once again,  
24 it's a five-second tase with one second in between  
25 the tases.

1 Just pretty much like the other ones,  
2 correct?

3 A Yes.

4 Q Okay. Sure we can take a break.

5 VIDEOGRAPHER: Off the record at 3:24.

6 (Recess taken.)

7 VIDEOGRAPHER: Back on the record at 3:34 in  
8 the deposition of Dr. Michael Graham. This will  
9 begin disc two.

10 BY MR. FLOYD:

11 Q I want to talk to you a little bit about  
12 this load with the TASER and I -- where is that  
13 exhibit again? This was Exhibit 36 and you had  
14 looked at it and I had asked you about the pulse  
15 rate and TASER X26 says 16.5 to 20 pulses per  
16 second, but you said actually it should be, did you  
17 say 19?

18 A No. I think it's designed for 19 pulses per  
19 second, but the specs will allow some variance from  
20 that.

21 Q Okay.

22 A So as long as you are within spec, but I  
23 think theoretically it's 19 pulses per second.

24 Q Okay. So looking at this download, can you  
25 tell me, approximately, how many seconds Mr. Moore

1 was under load?

2       **A** You can't, because the -- back in this time  
3 period you can measure whether the device is in spec  
4 or not, you can measure whether the trigger was  
5 pulled, but you don't know how long somebody was  
6 under load. There was no way to measure that. They  
7 didn't measure delivery current.

8       **Q** Just assume that there was good contact?

9       **A** But the machine doesn't describe that. Now,  
10 if you want to assume that all of this electricity  
11 was delivered to him.

12       **Q** Yes.

13       **A** That there was actually delivery through the  
14 probes to him.

15       **Q** Yes.

16       **A** Then you're looking at probably 20 seconds,  
17 basically 20 seconds.

18       **Q** Okay. So how many pulses would he have  
19 received in those 20 seconds approximately?

20       **A** 19 times 20.

21       **Q** 380?

22       **A** Yeah, 380.

23       **Q** What is the relationship between the pulses  
24 and the contractions, muscle contractions?

25       **A** Right, yeah. The pulse rate is designed to

1 stimulate the nerves, and so it's not like a  
2 one-on-one situation where every time you get a  
3 pulse you get a contraction, it doesn't work that  
4 way.

5 You are trying to basically stimulate  
6 the nerve in the most efficient way possible, and  
7 that 19 pulses per second, give or take, is an  
8 efficient way to do that so it's not a strict  
9 correlation.

10 Q And I think that I asked Officer Kaminski  
11 this, but I'll ask you.

12 Have you ever seen like I think it's  
13 TASER promotional tape of I think it is the X26  
14 Tasing at Texas longhorn bolt?

15 A No.

16 Q Have you ever heard of it?

17 A No.

18 Q Okay. I want to talk to you a little bit  
19 about the TASER warnings.

20 Are you familiar with the TASER  
21 warnings?

22 A Very generally. I'm not a warnings expert.  
23 I had nothing to do with formulating TASER warnings.

24 Q I want to ask you about them to some degree.  
25 Let's see how -- do you want the highlighted one to

1 make it easier? I have highlighted stuff that I  
2 wasn't going to use, but that's Exhibit 19. Do you  
3 need a copy of that? Okay.

4 Exhibit 19, and looking at the  
5 warnings, this is warnings that are produced by  
6 TASER International. Do you agree with that?

7 **A** Yes.

8 **Q** Important ECD product safety and health  
9 information. Okay. Moving into the second page, I  
10 wanted to know if you were aware and it talks about,  
11 it's the first highlighted section.

12 "Minimized, repeated, continuous or  
13 simultaneous exposures." And it states "Reasonable  
14 effort should be made to minimize the number of  
15 ECDs, ECD exposures, electrical conductive device,"  
16 correct?

17 **A** Yes.

18 **Q** That's the TASER is what an ECD is, correct?

19 **A** A TASER is one type.

20 **Q** Yeah. But when they use ECD, that's what  
21 they're referring to? That would apply to the TASER  
22 X26?

23 **A** It applies to a variety of their devices  
24 included the X26.

25 **Q** Okay. And that "The user should use the



1 lowest number of ECD exposures that are objectively  
2 reasonable to accomplish lawful objectives and  
3 should assess the subject's resistance level before  
4 initiating or continuing exposure."

5 Did you see that warning?

6 **A** Yes.

7 **Q** Okay. And Officer Kaminiski has testified  
8 that he knew about them. He was a certified TASER  
9 trainer and had been for many years. So I want to  
10 ask you, looking at this statement here, and I don't  
11 know how far you've gotten into these issues with  
12 the cases you've testified on involving police  
13 deaths and custody, but there's a statement in here,  
14 number one, "They should minimize the number of  
15 loads that they deliver to someone."

16 But number two, "Try not to make them  
17 simultaneous."

18 And number three that "They should  
19 assess the subject's resistance level before  
20 initiating or continuing to give another load."

21 Did you see that?

22 **A** Yes.

23 **Q** Do you think that a second or less than a  
24 second is enough time to assess somebody's reaction  
25 to a load?

1 MS. SHAFIAIE: Form and foundation.

2 A I would defer to the experts on use of  
3 force.

4 Q Okay. And it talks about sensitive body  
5 part hazard, it's the next portion that's probably  
6 underlined.

7 It says, "When possible, avoid  
8 intentionally targeting the ECD on sensitive areas  
9 of the body such as the head, throat, chest, breast  
10 or other pre-existing injury areas." Okay. Well, I  
11 want to focus on the chest part. This warning here  
12 says to avoid that area.

13 Do you agree with that warning?

14 A I don't think based upon what we know now, I  
15 don't think you need to intentionally avoid that,  
16 although the effectiveness of the device, if you go  
17 lower is more effective because you can incorporate  
18 the core muscles is what you really want to do.  
19 Targeting the chest you have less likelihood of  
20 stimulating the core muscles.

21 Q So you may disagree with TASER on this one  
22 because TASER says warning sensitive body part  
23 hazards?

24 A Again, I'm not a warnings expert. From a  
25 scientific standpoint from what we've written right

1 now, I don't think that -- that for me is not a big  
2 issue.

3 Q Okay. There's a warning here and here we're  
4 talking about I guess the force and whether the  
5 voltage is legitimate or not. I don't know how we  
6 want to phrase that or how to set that up, but on  
7 the next page eye injury hazard I have it  
8 highlighted.

9 "If a TASER probe, electrode or  
10 electrical discharge contacts or comes close, comes  
11 into close proximity of an eye, it could result in  
12 serious injury including permanent vision loss."

13 Were you aware that the TASER could  
14 cause that much damage?

15 A Well, yeah. If you stick a dart in  
16 somebody's eye, sure, it's going to be a big  
17 problem.

18 Q Even near the eye? It doesn't have to be in  
19 the eye?

20 A It's a suggestion that it would be in the  
21 orbit or something like that. So, yes, obviously it  
22 could cause problems.

23 Q Okay. And then we talk about these muscle  
24 contractions on the next page, and it indicates here  
25 that it can cause strong to moderate muscle

1 contractions. It goes on to state that it can cause  
2 fracture to the bones including compression  
3 fractures. It can cause tears of muscles,  
4 ligaments, tendons.

5 Were you aware that it could do all  
6 of that damage?

7 **A** I don't know about the compression  
8 fractures. I know that there's been some discussion  
9 about that, whether it really happens or not is not  
10 entirely clear but, sure, you are causing, you know,  
11 muscle contraction, you know, not anywhere near the  
12 maximum muscle contraction possible. Probably 40  
13 percent or so of it, but yeah, that can cause  
14 sprains and things like that, sure.

15 **Q** Here it says that it can cause, I guess it's  
16 because -- it's because of the involuntary muscle  
17 contractions, right, that the TASER is causing?

18 **A** Well, you are not dealing with involuntary  
19 muscles. You're dealing with voluntary muscle  
20 contraction, but not volitional, and so I mean, even  
21 if it's a volitional muscle contraction, if you  
22 contract your muscle 40, 45 percent of its maximum,  
23 you can cause strains, especially if it's not  
24 stretched out or -- yeah.

25 **Q** But I've heard of cases where there's been

1 disc herniations and compression fractures and  
2 that's what's listed in this warning?

3       **A** Yeah. It's -- it's not clear to me whether  
4 the compression fractures are really related to this  
5 or not.

6       **Q** But TASER seems to think it's important  
7 enough to put in their warning?

8       **A** Well, again, I'm not a warnings expert, but  
9 a lot of things typically go into warnings.

10       **Q** This next one is of relative importance that  
11 I want to ask you about. It's the physiological or  
12 metabolic effects, and without using those words to  
13 confuse anybody, it says that "The ECD can produce  
14 physiologic or metabolic effects which include but  
15 are not limited to" and then I go to the part that I  
16 was focusing on heart rate and rhythm.

17                       Did you see that?

18       **A** I did.

19       **Q** TASER is giving a warning that the ECD can  
20 produce physiological or metabolic effects which  
21 include but are not related to heart rate and  
22 rhythm. Do you agree with that?

23       **A** Yeah, it can certainly change your rate.

24       **Q** And rhythm?

25       **A** I'm not sure about the rhythm part.

1           **Q**    So you would -- so you're disagreeing with  
2    TASER's own warning then?

3           **A**    Again, it's a warning and I'm not a warnings  
4    expert, but a lot of things go into warnings that  
5    the science may not entirely support.

6           **Q**    Okay. But I just -- I mean, I thought it  
7    was important because you've testified here that you  
8    don't believe that a TASER can affect heart rhythm.  
9    You've acknowledged that there are other experts  
10   that disagree with you and now I wanted to point out  
11   that even TASER International has given a warning  
12   not to shoot the chest and that it can cause a heart  
13   rhythm problem?

14               MS. SHAFIAIE: Form and foundation.

15           **Q**    (By Mr. Floyd) Do you agree with these  
16   warnings in there?

17               MS. SHAFIAIE: Same objection.

18           **A**    Let me go back to your first statement. I  
19   have never said that the TASER cannot at least  
20   theoretically cause changes in heart rhythm.

21           **Q**    Okay.

22           **A**    I said that it can.

23           **Q**    Okay. Well then you're on record that it  
24   can then.

25           **A**    But under normal usage and under a normal

1 size individual, it has not been shown to do so, but  
2 theoretically, I think I said earlier on in this  
3 deposition that you potentially could.

4 Q Then we go on to the -- just so that I'm  
5 clear that we have a record of this, you're on  
6 record of acknowledging that the TASER can affect  
7 the heart rhythm?

8 A It theoretically can. Whether it actually  
9 does in practice has not been shown to do so, but it  
10 theoretically can, yes.

11 Q Of course, Dr. Zipes would disagree with you  
12 on that statement you just made, wouldn't he?

13 A You have to ask Dr. Zipes.

14 Q Okay. But you've read his articles?

15 A I've read his articles.

16 Q And they disagree with that statement you  
17 made?

18 A I'd have to read exactly how he has it  
19 written, but yeah, he believes it can.

20 Q Okay. Then we go on to the higher-risk  
21 population. What I wanted to point out here is it  
22 says that the ECD use on and it talks about  
23 different types of people and we'll skip pregnant,  
24 infirmed, elderly, small child but it says low body  
25 mass index, BMI.

1                   And it goes to say that the "ECD  
2    should not be used on members of these populations  
3    unless the situation justifies possible higher risk  
4    of death or serious injury." Okay.

5                   So TASER is warning that, if you use  
6    -- and because I understand they are warning that,  
7    if you use a TASER on somebody that has a low body  
8    mass index, that you really shouldn't be doing it  
9    unless the situation justifies a higher risk of  
10   death or serious injury. Did you see that?

11                  MS. SHAFIAIE: Form and foundation.

12                **A**    It doesn't say that it does increase the  
13   risk of death. It said it could.

14                **Q**    (By Mr. Floyd) And it says --

15                **A**    Let me finish. Hang on. And the reason  
16   they say it could is based on theoretic  
17   considerations and the sentence says it has not been  
18   tested on these populations. But again, it says it  
19   can be used if the situation justifies it.

20                **Q**    And I want to ask you about that, low body  
21   mass index. That's basically -- we do that formula  
22   by somebody's height and weight, correct?

23                **A**    Yes.

24                **Q**    And Mr. Moore, according to the death  
25   certificate, had him listed at 72-inches long?



1           **A**    I don't remember how tall he was, but he was  
2    like 130 pounds. I mean, he's a skinny guy.

3           **Q**    And the body mass index was somewhere around  
4    18 which is below normal, it's low. It's under  
5    weight from what I looked up?

6           **A**    I guess it depends on what table you use,  
7    but he's a skinny guy.

8           **Q**    I think I used the government's statistics  
9    and they said it was underweight. So now, and I  
10   want to ask you about that. You know, we've got --  
11   and I mention it because, you know, we've got some  
12   of these warnings, you know, maybe you don't agree  
13   with them, but maybe there's going to be some other  
14   people in this case that do, but if you tase  
15   somebody in the chest, you're getting it in the area  
16   near the heart, and if someone is of slight build,  
17   and you've referenced this a bit in your report and  
18   I think you know where I'm going. If someone is of  
19   a slight build and they're shot in their chest, the  
20   thinner built they are, the more likelihood that  
21   that dart could potentially, if it's shot in the  
22   right spot, could get closer to the heart.

23                   Do you agree?

24           **A**    Yes.

25           **Q**    And if someone is naked, they don't have a

1 layer of clothing to prevent that dart from going  
2 in, correct?

3 **A** I mean, thin clothing -- thin clothing  
4 probably doesn't make a whole heck of a lot of  
5 difference. But a skinny guy you can get the probe  
6 tip closer to the heart than you can the bigger guy.

7 **Q** And then let's say, and I've read some  
8 things on this and I would just kind of like your  
9 thoughts on it, other people probably comment on it  
10 and you've probably read some of these articles.

11 But when an individual gets shot in  
12 the chest with the dart and they fall flat down on  
13 their chest, that I've read some articles where  
14 experts have said that that can cause the darts to  
15 actually penetrate deeper into the chest to get  
16 closer to the heart.

17 Do you agree with that?

18 **A** It's never been shown. Theoretically, that  
19 could happen, but that so far hasn't been tested  
20 yet. Whether that really occurs or not, I don't  
21 think anybody knows.

22 **Q** You've read probably some of the same stuff  
23 I have then. You seen that out in the literature?

24 **A** I've heard it. I don't know that I've seen  
25 any data that would indicate that.

1           **Q**   The other aspect of that is that, when  
2   somebody falls flat on their chest, is that -- the  
3   literature I read is that the heart can move around  
4   inside the chest cavity to some degree and that when  
5   you're laying on your chest that the heart moves  
6   closer to the chest wall which makes it closer to  
7   the dart again.

8                   So it's two factors. One, when  
9   you're on your chest, the heart is dropping closer  
10   to the chest wall. And number two, the prong is  
11   being driven into the chest deeper making the  
12   proximity between the dart and the heart even  
13   closer.

14                   Do you agree with that?

15           **A**   The latter part has not been shown that the  
16   dart is driven in deeper. I think it's generally  
17   recognized that, if you're laying flat down, the  
18   heart does move forward a little bit.

19           **Q**   Which would -- if the dart gets driven in  
20   further and if the heart gets moved closer to the  
21   chest in that position, that increases the  
22   likelihood of the TASER electrical current  
23   interfering with heart rhythm?

24           **A**   Only if you're within probably less than  
25   5 millimeters of the heart.

1           Q   Others would disagree with you on that  
2   distance, correct?

3           A   I don't know if that's true or not.

4           Q   Your testimony is that the dart has to be  
5   within five millimeters of the heart to cause --

6           A   It's probably got to be within three or four  
7   in a human because v-fib.

8           Q   Would you be surprised if a cardiac  
9   electrophysiologist were able to effect a heart  
10   rhythm with electrical pulse from further distances  
11   than that?

12          A   Well, it depends upon how much charge you  
13   are delivering. I mean, you can do transcutaneous  
14   pacing, you can do -- obviously, you can do  
15   transcutaneous defibrillations, but that's a huge  
16   amount of charge. We're talking about, you know,  
17   100 microcoulombs or less, and so I would be  
18   surprised if somebody could do transcutaneous  
19   changes in heart rhythm with 100 microcoulombs.

20          Q   Did you state in your report that -- you  
21   didn't give the number of 5 millimeters in your  
22   report, did you?

23          A   What I gave is what has been seen in pigs  
24   and things.

25          Q   Which was 23 millimeters?

1           **A**     Per capture. For fibrillation that's about  
2     eight.

3           **Q**     But for cardiac capture?

4           **A**     Oh, for capture, yeah, it's about an inch in  
5     a pig. There's been a human captured about  
6     17 millimeters, but no non-perfusing rhythms. So  
7     for v-fib you're looking at, you know, if the  
8     average pig that you can even fibrillate is  
9     6 millimeters, you know, then you're looking, you  
10    know, maybe two-thirds of that, so about 4  
11    millimeters.

12          **Q**     And looking at your report, you indicated  
13    that Dr. Sabharwal noted that there was a  
14    7-millimeter circular burn with a central puncture  
15    on the left anterior chest, correct?

16          **A**     Right. That's from the probe in the hub on  
17    the skin.

18          **Q**     How close in proximity is that to the heart?

19          **A**     Oh, in this case it's over an inch. I mean,  
20    he measured the skin and fat was 7 millimeters.  
21    Chest wall muscle was 15, the intercostal was 10.  
22    It's well over an inch.

23          **Q**     Okay. But we don't know how deep the probe  
24    went into the skin, do we?

25          **A**     We do. Because if you do have the circular

1 abrasion, that means it went into the hub and so  
2 it's in 9 millimeters.

3 Q Do you know how long this probe was on this  
4 dart?

5 A I don't know if this was the 9 or the  
6 13-millimeter probe. Let me see if it's got  
7 anything in here.

8 MR. DOWD: .55 inches.

9 THE WITNESS: No. The probe is not five  
10 inches long.

11 MR. DOWD: .55. It's slightly over a half  
12 an inch.

13 THE WITNESS: So it's the 13-millimeter  
14 dart, the extended dart.

15 Q (By Mr. Floyd) So we've got a probe that's  
16 over a half inch long going into his chest?

17 A Yeah.

18 Q We've got him driven into the ground and  
19 we've got the chest dropping down close -- the heart  
20 dropping down closer to the chest cavity as he's on  
21 his chest.

22 MS. SHAFIAIE: Object to form and foundation.

23 A So you don't know actually if the probe is  
24 driven in. You've got --

25 Q (By Mr. Floyd) Well, we've got the burn

1 marks and the 7 millimeters which you indicate.

2       **A**    Yeah. It means it's into the hub which is  
3 what you typically see.

4       **Q**    Full depth?

5       **A**    Yeah, 13 millimeters, and so you're still  
6 almost 20 millimeters away from the heart.

7       **Q**    But as that -- you put pressure on it, it  
8 could press through some of the fat just like I can  
9 stick my finger on my chest, I can press deeper into  
10 it?

11       **A**    He hasn't shown any wound track that is  
12 deeper than that though. I mean, you're guessing.  
13 You have no science to show that.

14       **Q**    It's theory. Other doctors have theorized  
15 that.

16       **A**    You can theorize all you want, but there's  
17 no evidence to support it.

18       **Q**    In any event, we have a large probe. Are  
19 you able to do the measurements of how close that  
20 probe would have been to his heart if he was laying  
21 on his chest and the heart dropping down?

22       **A**    32 millimeters, 19 millimeters.

23       **Q**    And how did you do that math?

24       **A**    32 minus 13.

25       **Q**    And the 32 came from the depth?

1           **A**    The measurement inside the wall. So the  
2 chest wall --

3           **Q**    And that's assuming that the dart didn't  
4 penetrate any deeper when he got pressed onto the  
5 ground, correct?

6           **A**    And it also doesn't allow for the heart  
7 being away from the sternum at all either. So, it's  
8 actually probably longer than that.

9           **Q**    And where did you deduct the 19?

10                   I mean, where did you deduct the 13  
11 from the millimeters?

12           **A**    Like you said, it's a 13-millimeter probe.

13           **Q**    And I believe that you testified that a  
14 discharge -- you were referencing studies that  
15 indicate that there were cardiac capture within  
16 23 millimeters on swine, correct?

17           **A**    Yes.

18           **Q**    And pigs are commonly used to test products  
19 for safety for humans, correct?

20           **A**    Not so much for safety. Pigs are so easy to  
21 fibrillate. They're not really -- they use them  
22 because they are easy to fibrillate. To fibrillate  
23 a pig, the average heart to heart distance was six  
24 millimeters and they can't get big pigs to  
25 fibrillate at all without manipulating them.



1           **Q**   And don't you have pig valves that have been  
2   used in humans, is that correct? Pig heart valves?

3           **A**   Yeah, tissue from pig heart valves, sure,  
4   yeah. It's got nothing to do with this.

5           **Q**   Okay. Now, there are some other warnings  
6   that TASER has given and I won't go through the  
7   documents to add more on here, I'll just ask you if  
8   you know about them. They've already been put into  
9   evidence in other depositions. I've got the  
10   documents here, but in order to save some time, that  
11   the statements were that an increased risk of death  
12   when used on a person with -- well, just strike  
13   that.

14                   Physiological or  
15   metabolically-compromised persons at risk of death  
16   when they're tased with a TASER. It increases their  
17   risk of injury or death.

18                   Do you agree with that or not?

19           **A**   That's not been shown, no.

20           **Q**   Okay. So then I'll just go to this  
21   statement here. I guess it's the physiologically  
22   and metabolically compromised person. It is on that  
23   Exhibit.

24           **A**   Yeah, I got it.

25           **Q**   I have it highlighted. It says, "Law

1 enforcement personnel are called upon to deal with  
2 individuals in crisis that are often physiologically  
3 or metabolically compromised and may be susceptible  
4 to arrest-related deaths. The factors that may  
5 increase susceptibility for arrest-related deaths  
6 have not been fully characterized but may include"  
7 and then you state it and it states in here  
8 "Agitated or excited delirium." And there's other  
9 warnings that state just emotionally distressed.

10 And you would agree that that warning  
11 is given by TASER?

12 **A** I don't see anything about it just being  
13 emotionally distressed in here.

14 **Q** That's in other warnings. They're in  
15 evidence. It's on another document.

16 **A** Yeah, it's not in this one, but agitated  
17 delirium certainly we recognize that those  
18 individuals are subject to sudden death often  
19 temporally related to forcible restraint.

20 **Q** Or being shot with a TASER multiple times?

21 **A** It's never really been shown to be increased  
22 incidents.

23 **Q** Then why give the warning?

24 MS. SHAFIAIE: Object to foundation.

25 **A** You have to talk to the warnings experts.

1           **Q**       (By Mr. Floyd) But they state on here that  
2       may cause or contribute to death or serious injury  
3       ECD use?

4           **A**       What it says is that the factors that may  
5       increase susceptibility for any arrest-related death  
6       have not been fully characterized but may include  
7       and they give a whole laundry list of things. And  
8       just as a general statement for people subject to  
9       sudden death during arrest.

10          **Q**       Are you saying that officers should  
11       disregard these warnings?

12          **A**       I have nothing to say about warnings. I'm  
13       not a warnings expert.

14          **Q**       Okay. Because my understanding is and you  
15       worked for TASER -- I mean, you worked for TASER and  
16       you're on their safety --

17          **A**       I don't work for TASER. I'm on their  
18       scientific advisory board. I don't -- I'm not a  
19       TASER employee.

20          **Q**       My understanding is that, if you're going to  
21       use a TASER, that TASER requires that you adhere to  
22       their warnings.

23                   Is that your understanding?

24          **A**       I don't know. I don't use TASER in my daily  
25       job. You'll have to talk to the business folks

1 about that.

2 Q Okay. Well, my understanding is that, if we  
3 read through this, I think even in this document 19  
4 it probably states and I've read it on multiple  
5 occasions that they don't want you using this TASER  
6 if you're not going to follow these warnings?

7 MS. SHAFIAIE: Form and foundation.

8 Q (By Mr. Floyd) Do you disagree with that?

9 MS. SHAFIAIE: Same objection.

10 Q (By Mr. Floyd) But right on the top of the  
11 page, "These safety warnings are for your protection  
12 as well as the safety of others. Disregarding this  
13 information could result in death or serious  
14 injury."

15 You see that? It's the very first  
16 thing they state.

17 A Okay.

18 Q And the way I look at it, sometimes the  
19 first thing you state in a document is often the  
20 most important and that's what they've got listed as  
21 their first thing. Follow these instructions, or  
22 someone might die?

23 MS. SHAFIAIE: Form.

24 A Yeah.

25 Q (By Mr. Floyd) We'll move on.

1 Do you agree that there's increased  
2 risk of death or injury if an individual is tased in  
3 the chest?

4 **A** From being tased in the chest, no.

5 **Q** Okay. Do you agree that there's increased  
6 risk of injury or death if someone is tased multiple  
7 times?

8 **A** No.

9 **Q** And I think I've testified to this, but I  
10 wanted to ask you, did you know from the materials  
11 that you read that prior to tasing Mr. Moore that  
12 Officer Kaminiski had been a certified TASER  
13 instructor for many years?

14 **A** I think I read that.

15 **Q** And that he had trained other officers  
16 regarding the TASER warnings that we discussed in  
17 Exhibit 19?

18 **A** Well, if he was a trainer, I would assume  
19 so.

20 **Q** Okay. Was there a toxicology report or  
21 study performed in conjunction with the autopsy on  
22 Mr. Moore?

23 **A** Yes.

24 **Q** And am I correct in stating that that  
25 toxicology report was entirely negative for drugs or

1 alcohol?

2       **A** I think there was Lidocaine, but that was  
3 probably from resuscitation. Other than that,  
4 nothing that they tested for showed up.

5       **Q** Lidocaine would have been part of the  
6 treatment that he was receiving in the ambulance and  
7 the hospital?

8       **A** For the resuscitation, yes.

9       **Q** And there were no significant abnormalities  
10 of the myocardium, correct?

11       **A** No. It's bigger than it should be. He's  
12 130 pounds and he had a 400-gram heart. That's too  
13 big.

14       **Q** But Dr. Sabharwal said there were no  
15 significant findings. So you two disagree on the  
16 significance --

17       **A** That's why I've asked to look at the slides.

18       **Q** Okay. That scenario that you disagree on,  
19 he didn't find it to be significant?

20       **A** I have to look at the slides and I can tell  
21 you.

22       **Q** And right now --

23       **A** Right now I am suspicious that it was not  
24 normal because that is just too much heart weight  
25 for a 134 pound guy.

1           **Q**    Okay. You indicated that the -- there was  
2    increase in the left --

3           **A**    Ventricle.

4           **Q**    -- ventricle, and my readings on that  
5    indicated that it was just slightly large?

6           **A**    400 grams is pretty big for somebody that's  
7    only 130 pounds.

8           **Q**    Well, I mean, the left ventricle I think it  
9    was 13 millimeters?

10          **A**    Well, but you don't look at that. It's the  
11   heart weight actually is more important.

12          **Q**    Okay. And you would agree that there are  
13   many, many people walking around in the streets that  
14   have enlarged hearts or other problems, you know,  
15   clogged arteries, hardened arteries.

16                    You agree, right?

17          **A**    Yes.

18          **Q**    And it would be completely irresponsible for  
19   any police officer to assume that everybody that  
20   he's preparing to tase has a completely healthy  
21   heart. Do you agree?

22                   MS. SHAFIAIE: Form and foundation.

23          **A**    Yeah. I don't think that you can try to  
24   assess somebody's overall health in a situation like  
25   this.

1           **Q**   But you have to realize that the general  
2   public is susceptible to heart susceptibilities?

3           **A**   You know actually in the population that the  
4   police officers are most commonly asked to get  
5   involved with where there is the potential for  
6   forcible strength, those usually healthy people  
7   because you're not dealing with the older population  
8   generally.  You're dealing with young people and  
9   most of them are healthy.  I mean, officers usually  
10   aren't going around wrestling 70-year old, 75-year  
11   old guys.

12          **Q**   Yeah.  But the young --

13          **A**   The young --

14          **Q**   How about in the 30's and 40's?

15          **A**   Yeah, but the -- you know, the probability  
16   is, when you're dealing with somebody in a young  
17   age, they are going to be normal.  You can't  
18   categorically say they are going to be normal.  
19   There is a chance that they will be abnormal, but  
20   it's really not very big.  I mean, most 20-year old  
21   guys are healthy.

22          **Q**   I think we'll have to challenge that to an  
23   extent that, are you telling this jury that police  
24   officers don't need to worry about potential  
25   underlying heart conditions because they are only



1 dealing with youth and young people?

2       **A** No. I didn't say that at all. I said there  
3 is potential there, but it's a very, very small  
4 potential. The vast majority of people walking  
5 around in their teens and early twenties are  
6 healthy. If they look healthy, most of them are  
7 healthy.

8       **Q** And --

9       **A** But not everybody.

10       **Q** Not everybody. And many of the cases that  
11 I've read in Federal courts regarding TASERs did  
12 involve people that were older than Mr. Moore?

13       **A** Correct. But still most of them are fairly  
14 young.

15       **Q** But the bottom line is, is that we have to  
16 -- police officers should assume -- you don't know.  
17 I've got a friend that's in his 30s and had a  
18 pacemaker put in and you know that happens at that  
19 young of an age, correct?

20               MS. SHAFIAIE: Form and foundation.

21       **A** Sure.

22       **Q** Correct?

23       **A** Yes.

24       **Q** Okay. So these police officers have to  
25 realize that this weapon, it's a great tool in most

1 situations, but in some situations it can be very  
2 dangerous. Do you agree?

3 MS. SHAFIAIE: Same objection.

4 A I don't think it's very dangerous. There  
5 are complications that can arise from tasing people,  
6 the biggest one is falling down and hitting your  
7 head uncontrolled, falling off heights, being around  
8 flammables. All of that's recognized. I mean if --  
9 the bottom line is these are great tools, as you  
10 said, but they have to be used appropriately.

11 Q (By Mr. Floyd) Great. And I want to ask  
12 you this.

13 Do you agree that it's never  
14 appropriate for an officer to use force on an  
15 individual that's not necessary?

16 MS. SHAFIAIE: Form and foundation.

17 A If the officer thinks it's necessary, then I  
18 think he's warranted to use force.

19 Q (By Mr. Floyd) If he reasonably knows that,  
20 it shouldn't be necessary?

21 MS. SHAFIAIE: Same objection.

22 A If he -- yeah, if he thinks that force isn't  
23 needed and he uses force, then yeah, I don't think  
24 that's appropriate.

25 Q (By Mr. Floyd) It's not appropriate for an

1 officer just to disregard an individual's safety and  
2 say, you know what, I'm going to make my job easier.  
3 I'm going to disregard his safety, it will expose  
4 him to some risks, but I'm going to do it.

5 You don't agree with that philosophy,  
6 do you?

7 MS. SHAFIAE: Same objections.

8 A I mean, obviously, officers do things that  
9 they know are not safe to people like they shoot  
10 them occasionally.

11 Q (By Mr. Floyd) When it's not necessary,  
12 though?

13 A Yeah. They shouldn't do things that are not  
14 necessary.

15 Q We covered some of this already, so I'm  
16 skipping it. Okay. We've talked about cardiac  
17 capture and v-fib.

18 Do you agree that v-fib occurs when  
19 the heart's electrical rhythm is knocked out of  
20 sequence and the heart isn't pumping blood?

21 A That's -- not necessarily. In some cases it  
22 does. Once you're in v-fib, then your heart is not  
23 pumping blood.

24 Q Okay. But you agree that v-fib occurs when  
25 the heart's rhythm is out of sequence?

1           **A**   No. No. There are lots of different rhythm  
2   disturbances other than v-fib that can occur. But  
3   V-fib is one of the rhythm disturbances where the  
4   heart is no longer pumping in a coordinated fashion.

5           **Q**   Okay. So v-fib is when the heart is not  
6   pumping in a coordinated fashion and that's related  
7   to the heart rhythm?

8           **A**   It's actually a lack of a rhythm.

9           **Q**   Lack of a rhythm, okay.

10          **A**   But it is a very particular type of an  
11   event. There are other abnormalities or lacks of  
12   rhythm where you're not pumping blood either, but  
13   just to say that the rhythm is off, therefore, it  
14   must be v-fib, that's not true.

15          **Q**   And do you agree that v-fib can be detected  
16   on a heart monitor?

17          **A**   Yes.

18          **Q**   No question about that, is there?

19          **A**   Assuming that it's probably working correct.

20          **Q**   And when you explained excited delirium  
21   psychosis, you didn't mention v-fib, did you?

22          **A**   In my report?

23          **Q**   Yeah.

24          **A**   Yeah, I did. I said usually you don't see  
25   it in that situation but you can.

1           **Q**    But it's pretty rare, isn't it?

2           **A**    It is unusual.

3           **Q**    Okay. And you agree that an electrical  
4 shock can cause v-fib, correct?

5           **A**    If there is enough charge there, yes.

6           **Q**    But to be fair to you, you just don't  
7 believe that a TASER X26 is powerful enough to  
8 capture the heart's electrical pulse and throw it  
9 out of rhythm? I've probably butchered that in  
10 layman's terms.

11          **A**    You did. Let me -- I think if you get the  
12 darts or one of the darts close enough to the heart  
13 and discharge them, an X26, I think you can induce  
14 v-fib.

15          **Q**    Okay. Do you agree that Moore's heart was  
16 in v-fib after he was tased four times?

17          **A**    Eventually he was in v-fib. I think that is  
18 the rhythm that was identified but let me see. Yes.

19          **Q**    Okay.

20          **A**    He eventually went into v-fib.

21          **Q**    And how many times was he in it?

22          **A**    Oh, I don't think it matters. The only  
23 rhythm that's really important is the first rhythm,  
24 because once you start resuscitating and giving  
25 drugs, you can cause any kind of rhythms. It's the

1 initial rhythm that you're interested in.

2 Q So they tried to defibrillate and then he  
3 went back into v-fib?

4 A No, he went into asystole. He was in v-fib.  
5 They tried to defibrillate him and that put him into  
6 asystole.

7 Q And asystole, for the jury, that's flat  
8 line?

9 A Yes.

10 Q That's what a common person understands,  
11 correct?

12 A Yes.

13 Q That is where there is no pulse?

14 A Well, you don't have a pulse with v-fib  
15 either. You have no electrical activity with  
16 asystole.

17 Q It would be flat line?

18 A Yes.

19 Q And then they got him back into v-fib from  
20 flat line?

21 A You know, I didn't pay much attention to it  
22 after that. It really doesn't matter.

23 Q Okay. Didn't you note in your report that  
24 Officer White reported he cuffed Moore while Moore  
25 was receiving the fourth TASER load, and within

1 seconds of cuffing Mr. Moore, White noticed  
2 something was wrong with Moore?

3 **A** He said it could also have been a minute.  
4 It's unclear.

5 **Q** And I wanted to explore that a bit because  
6 we look at a Christian Hospital statement from the  
7 police department discussing tased was more than --  
8 Moore was tased and then he became unresponsive.  
9 Let me see what I have here. And this is on -- I  
10 guess I should mark this as Exhibit 2. Do you want  
11 a copy of this item? I don't know if it's easier  
12 for to you read the highlight or not.

13 **A** Yes.

14 (Exhibit 2 was marked for  
15 identification by the court  
16 reporter.)

17 **Q** (By Mr. Floyd) And this is a record from  
18 Christian Hospital and it was on the evening of Mr.  
19 Moore's death. And reading at the top I think it  
20 says --

21 **A** I think this is the EMS report actually.

22 **Q** The EMS report. And it states that he  
23 arrived, that 317.

24 Do you know who, that 317 minutes is?  
25 Is that the ambulance, is that the paramedic or who

1 is that?

2 **A** No idea.

3 **Q** Okay. "317 arrived at scene to find above  
4 patient in care of Ferguson Police Department with  
5 CPR in progress. Patient lying on ground advised by  
6 police department that patient was running naked  
7 around parking lot when police department tased  
8 patient. Patient then went unresponsive."

9 **A** Right.

10 **Q** And then another one we will mark this as  
11 Exhibit 3.

12 (Exhibit 3 was marked for  
13 identification by the court  
14 reporter.)

15 **Q** (By Mr. Floyd) This is from Northwest  
16 Health Care, it's Exhibit 3 and it was the evening  
17 of his death. And the portion that I've highlighted  
18 doesn't it state that, "Per report by Ferguson  
19 police officer, patient was running around naked out  
20 doors banging on cars with his fists. Patient was  
21 tased and soon stopped breathing."

22 **A** Yes.

23 **Q** Okay. And then there was a deposition which  
24 I won't mark because it's in evidence. It was  
25 deposition of Brian Kaminiski. I'm sorry, no. It



1 was the deposition of Lieutenant Ballard, and I'll  
2 just read a portion of it to you because there's a  
3 lot on here that's highlighted and it's confusing.  
4 It's on page 88, line 21.

5 "Sir, if I could draw your attention  
6 back to Exhibit 12 two pages, if I could direct your  
7 attention back to Exhibit 12 to Ferguson 15. The  
8 next sentence in your report is quote, as I  
9 approached Mr. Moore and the officers, Mr. Moore let  
10 out a raspy sound and appeared to stop breathing."  
11 Period close quotes. Have I read that correctly?

12 "Yes." And then there's follow-up on  
13 that. Okay. Question -- this is on page 89, line  
14 23.

15 "Okay. Do you think --let me just  
16 ask you then. Based upon that statement that, as  
17 you approach the officers, Mr. Moore let out a raspy  
18 sound and appeared to stop breathing. Is that the  
19 last time you saw him breathe?" And now we're on  
20 page 90, line 3.

21 "Yes. When he made that sound, I  
22 turned around and looked and I noticed that he  
23 wasn't breathing and that's when Officer White" and  
24 then this is the important part I wanted to ask you  
25 about because it gives us some information about the

1 timing of the tasing and when he stopped breathing.

2 "Okay. So as you approach the  
3 officer, I think you said, when you got on the scene  
4 and got out of your car, Officer White was coming up  
5 from the handcuffing. Then you got up to the  
6 officers, then you heard the raspy breathing?"

7 Answer, "Yes."

8 So that line of questioning would  
9 suggest that, as Officer White was coming up from  
10 handcuffing Moore, that's when they heard the raspy  
11 breathing. That would suggest that the difficulty  
12 breathing started in very close proximity to the  
13 last tase?

14 MS. SHAFIAIE: Form and foundation.

15 **A** It's kind of hard to tell.

16 **Q** (By Mr. Floyd) That would support that  
17 though, that statement, would you agree?

18 MS. SHAFIAIE: Same objection.

19 **A** I'd have to look at the whole thing. I  
20 can't really tell from that.

21 **Q** Okay. Just to review a couple of things and  
22 then we'll be finished, almost finished.

23 You were hired by the Ferguson Police  
24 Department, correct?

25 **A** Well, I was hired by Pitzer Snodgrass.

1 Whether it's the officers of the department, I don't  
2 know.

3 Q Which is who they represent?

4 A Okay. That's fine.

5 Q And you acknowledge, as a pathologist, that  
6 there is no pathology to support that Mr. Moore died  
7 from agitated delirium or psychosis, correct?

8 A No. I don't agree with that at all. I  
9 think that the -- when you determine the cause of  
10 death, you don't look just at the tissues, you look  
11 at all the information to do that. As far as an  
12 anatomic marker that you can point at, yes, that's  
13 correct, but there is never an anatomic marker with  
14 excited delirium that you point to that shows us why  
15 somebody died.

16 Q And you can agree that, although this is the  
17 cause of death that you and Dr. Sabharwal have  
18 signed off on, you can't explain the mechanism of  
19 that death, can you?

20 A We don't know the mechanism, that's correct.

21 Q You agree that cardiac capture can lead to  
22 v-fib?

23 A No. Cardiac capture in itself does not lead  
24 to v-fib. You have to have more energy then to  
25 induce capture.

1           **Q**    You can agree that a heart rhythm  
2    disturbance from an electrical insult can lead to  
3    v-fib?

4           **A**    Yes.

5           **Q**    And you agree that TASER warns against this  
6    charge into the chest?

7           **A**    They used to. I don't know if they still do  
8    or not.

9           **Q**    Well, on this warning at the time, the  
10   latest warning before he was tased there was a  
11   warning against tasing into the chest.

12                   We went over that. Do you remember  
13   that?

14                   MS. SHAFIAIE: Form and foundation.

15           **A**    No, right. What I'm saying is I don't know  
16   if the current warnings indicate that, but at least  
17   at one point, yes, they did.

18           **Q**    (By Mr. Floyd) I believe that the current  
19   warnings are even stronger now?

20                   MS. SHAFIAIE: Foundation.

21           **A**    I haven't seen them.

22           **Q**    (By Mr. Floyd) Okay. All right, but since  
23   you haven't seen them, then you can't say -- I don't  
24   want this jury to walk away with the impression that  
25   you're suggesting that TASER has backed off any of

1 their warnings?

2       **A** I don't know if they have or not.

3       **Q** I mean, my understanding is they've gotten  
4 even stronger as time goes on?

5               MS. SHAFIAE: Foundation.

6       **A** I'd have to look and see what the current  
7 warnings are.

8       **Q** (By Mr. Floyd) Okay. Well, we'll leave  
9 that issue to be decided. I don't want it to be  
10 decided over speculation.

11               You'd be speculating if you said  
12 that, correct?

13       **A** Oh, I'm not a warnings expert anyway, so I'm  
14 not going to comment on warnings.

15       **Q** But we can agree that we covered some  
16 warnings here and that one of the TASER warnings  
17 warrants against tasing into the chest, correct?

18       **A** In the document you showed me, that is  
19 correct.

20       **Q** And that, in fact, Moore received four TASER  
21 loads through his chest, directly over his heart,  
22 correct?

23       **A** Probably did.

24       **Q** Assuming that it was good load and  
25 connection which Kaminiski confirmed?

1           **A**    Yes.

2           **Q**    Okay. And that TASER warns against tasing  
3   emotionally distressed or agitated subjects and  
4   Moore was emotionally distressed when he was tased,  
5   correct?

6                   MS. SHAFIAE: Foundation.

7           **A**    I think the warnings say unless the  
8   situation warrants it, yeah.

9           **Q**    (By Mr. Floyd) Okay. And then the risk of  
10   injury increases with each additional tase, correct?

11          **A**    No.

12          **Q**    With each additional load. There is not  
13   another risk of injury with each additional load?

14          **A**    Same risk as the single one. The fact that  
15   you tase somebody four times --

16          **Q**    You're not risking tearing more muscles,  
17   more fractures?

18          **A**    No.

19          **Q**    Lactic acid buildup?

20          **A**    No.

21          **Q**    Getting punched in the face once is just as  
22   risky as getting punched five times?

23          **A**    I don't know about that, but I will tell you  
24   what --

25          **Q**    Well --

1           **A**    Let me finish my question.

2                   MS. SHAFIAIE: Let him finish.

3           **A**    But the repeated discharge of the TASER and  
4   its effect on the metabolic parameters has been  
5   studied. It's in the literature doesn't show any  
6   significant changes.

7           **Q**    (By Mr. Floyd) I just want the jury to hear  
8   your answer.

9           **A**    Yes.

10          **Q**    There will be other experts who have their  
11   opinions on whether more loads are more dangerous.  
12   The risk of injury -- okay.

13                   Finally, do you acknowledge that  
14   within seconds or up to one minute after Kaminiski  
15   delivered the last of the four TASER loads to Moore,  
16   that Moore lost consciousness and eventually died?

17          **A**    Yeah, maybe as long as a minute or so, yeah.

18          **Q**    A minute or so. There's been nothing to go  
19   beyond a minute. I mean, that's a stretch to even  
20   take it to a minute. Do you agree? I mean, that's  
21   the furthest you could stretch it by any of  
22   the history --

23                   MS. SHAFIAIE: Form and foundation.

24          **A**    I think they said it could have been around  
25   a minute, so that -- but give or take but somewhere

1 right around there.

2 Q (By Mr. Floyd) But we just went over other  
3 documents here that show suddenly and after,  
4 correct?

5 A Well, we know it's after.

6 Q We know it was sudden too, right?

7 A And it was a sudden death, yeah, I don't  
8 think there's any argument, but there is no  
9 definition of when they say after. I mean after --

10 Q He soon stopped breathing?

11 A Yeah. There is no definition of soon.

12 Q Suddenly became unresponsive?

13 A Yeah. Well, you would expect suddenly.  
14 Suddenly unresponsive, that doesn't give you a  
15 timeframe though.

16 Q And White describes it as -- or Ballard  
17 described it as, "White was standing up from cuffing  
18 him he started having breathing problems."

19 So we've got those descriptions,  
20 correct?

21 A And the descriptions say it could have been  
22 a minute.

23 Q And we'll let the jury decide that, but at  
24 the end of the day, all arguments aside one thing we  
25 know is that after Moore had sustained four TASER



1 loads to his chest in rapid succession within  
2 seconds to a minute he lost consciousness and died.  
3 Fair statement?

4 **A** Within a minute or thereabouts, yes. I  
5 don't think you consider them seconds.

6 VIDEOGRAPHER: Off the record at 4:22.

7 (Recess taken.)

8 VIDEOGRAPHER: Back on the record at 4:31.

9 **Q** (By Mr. Floyd) Okay. A couple questions.  
10 With regard to the diagnosis or conclusion that Mr.  
11 Moore was suffering from psychosis or agitated  
12 delirium, I want to talk to you about that.

13 What other criteria that you need to  
14 find in order to make a diagnosis of agitated  
15 delirium?

16 **A** I think you have to show intermittent marked  
17 agitation often accompanied by paranoia, you may or  
18 may not have hyperthermia, and you can look at the  
19 other -- some of the other features, you know, the  
20 more features you have of the typical case and then  
21 I think you can make the diagnosis reliably. I  
22 mean, there is a list that's probably 30 things  
23 long.

24 **Q** Exactly. And let's kind of go through the  
25 longer list.

1           **A**   Well, I mean, I'd have to pull up the  
2   articles just to enumerate them all, but generally  
3   somebody inappropriately markedly agitated showing  
4   lack of touch with reality, bizarre behavior, often  
5   deistic, the nudity is very common --

6           **Q**   How about --

7           **A**   -- and the violence, the aggression.

8           **Q**   Okay. Now, I've read that one of the  
9   findings with excited or agitated delirium is that  
10   the body is producing this chemical in the brain and  
11   it causes the body, internal body temperature to  
12   heat up to sometimes 107 degrees and 105 degrees, is  
13   that true?

14          **A**   In some cases that is true.

15          **Q**   I thought it was true in most cases?

16          **A**   In warm climates such as where the syndrome,  
17   the acute syndrome was named Miami, they did find  
18   it. When we looked at ours, we only found it in  
19   about 40 percent of the cases.

20          **Q**   So Mr. Moore did not have a high --

21          **A**   Yeah, he was not hyperthermic.

22          **Q**   And he didn't have that heat and he wasn't  
23   sweating, correct?

24          **A**   He was not. As far as I know he was not  
25   sweating, but there is no evidence of the

1 hyperthermia.

2 Q So really what you've got is just him acting  
3 peculiarly?

4 A Yeah, this goes beyond that. I think, it's  
5 kind of like the old story of pornography. It's  
6 hard to define, but you know it when you see it.

7 You know an agitated delirium when  
8 you see one. I mean, they are spectacular and they  
9 go well beyond somebody who is just agitated or  
10 disturbed.

11 Q But you weren't there?

12 A No, but the descriptions of it are pretty  
13 typical. The descriptions that -- the descriptions  
14 of what he was doing pretty typical.

15 Q But it's missing some of the ingredients  
16 that I've seen in criteria I should say in other  
17 cases which is hypothermia --

18 A Hyperthermia you mean?

19 Q Yeah.

20 A Yeah. I mean, that's one feature but it's  
21 not always there. Like I said, when I reviewed our  
22 cases from around here, we only saw hyperthermia in  
23 about 40 percent of the cases.

24 Q And you had mentioned something else that  
25 there were no anatomical markers. Explain that to

1 the jury.

2 What's that mean, there are no  
3 anatomical markers of psychosis or agitated  
4 delirium?

5 A When it causes death.

6 Q Okay. Now --

7 A So it means you can't -- there are -- there  
8 are some studies at least in the cocaine-induced  
9 agitated deliriums where a very specialized  
10 laboratory can look at some of the Dopamine  
11 receptors in the brain and tell you whether or not  
12 there is agitated delirium. Whether that works for  
13 non-cocaine deaths or non-cocaine cases or not is  
14 not clear and it doesn't tell you whether that's  
15 what killed somebody or not.

16 Q Most cases of excited or agitated delirium  
17 -- or well, let me ask you this.

18 Are a lot of the cases of excited or  
19 agitated delirium drug induced?

20 A Most of them are.

21 Q Okay. In this case we've got an individual  
22 that has a negative tox screen.

23 A You have to take that with the grain of salt  
24 because there are certain things that aren't tested  
25 for in toxicology and that can't be tested for or

1 weren't tested for back then.

2 For example, we've seen some cases of  
3 agitated delirium related to the ingestion of bath  
4 salts.

5 Q But you have to --

6 MS. SHAFIAIE: Let him finish.

7 A Let me finish. Let me finish this. And  
8 routine toxicology screening doesn't pick that up,  
9 so they come up as negative tox screens unless you  
10 look for it specifically.

11 And so I don't know that you can  
12 absolutely rule out this being a drug-induced  
13 agitated delirium, but there is nothing that  
14 establishes that at this point.

15 Q But, I mean, here we are throughout this  
16 deposition you're saying well I'm not going to agree  
17 with that because there are no studies to support it  
18 or, you know, that's just in theory, but isn't that  
19 --

20 A What's that?

21 Q -- kind of what you're trying to do here?  
22 You're suggesting that, even though, you know, when  
23 you're talking about cardiac capture and these types  
24 of things, but when we get to this issue here,  
25 you're talking about hey maybe he was on bath salts,

1 but they just didn't test for them and we can't rule  
2 that out?

3 MS. SHAFIAIE: Form.

4 A No, that's not what I said. You said it's a  
5 negative toxicology study, yes, but that does not  
6 exclude the possibility of something being there  
7 that wasn't tested for, and so it's agitated  
8 delirium no matter how you cut it. It's either  
9 related to psychosis or to some substance that we  
10 haven't identified.

11 Q Well, you don't have any evidence though to  
12 acknowledge that? There is no evidence to support  
13 that this guy was under the influence of any drugs  
14 at this time.

15 In fact, what evidence we do have  
16 suggest he wasn't?

17 A No. I agree with you, but you can't  
18 categorically say he wasn't under because we know  
19 now that we've seen cases of material that look like  
20 tox negative or cases of agitated delirium that we  
21 thought were toxicology negative, until we  
22 specifically looked for some other substances that  
23 you don't normally look for.

24 Q Have you shared this theory with defense  
25 counsel?

1           **A**   It's not a theory. I mean, that's just a  
2   reality of it. I'm not saying that he is under the  
3   influence of something. I'm saying you can't  
4   exclude the possibility and it really doesn't matter  
5   because it's still agitated delirium.

6                   Once you got agitated delirium, it  
7   really doesn't matter what caused it.

8           **Q**   But --

9           **A**   It seems to be, the behavior seems to be the  
10   same.

11          **Q**   But you're making this diagnosis of agitated  
12   delirium, and would you agree that the diagnosis of  
13   agitated delirium is a diagnosis of exclusion?

14          **A**   No.

15          **Q**   Other doctors would disagree with you on  
16   that. Do you agree?

17          **A**   I don't know about that. I don't think it's  
18   a diagnosis of exclusion. You look for the  
19   features, and if they're there, you call it. That's  
20   not an exclusion diagnosis.

21          **Q**   There is no objective physical evidence or,  
22   you know, pathological evidence, pathology that you  
23   can put your finger on? It's not like there's, you  
24   know, some change in his body. This is all theory  
25   that you're coming up with, correct?

1 MS. SHAFIAIE: Form.

2 A No, not at all. It's observations that are  
3 well grounded, that they're well accepted in the  
4 medical community.

5 Q So cover a couple things here.

6 There is no slides, no -- no blood  
7 samples that show that he had excited delirium or  
8 agitated delirium or any psychosis, correct?

9 MS. SHAFIAIE: Form and foundation.

10 A There is no such test.

11 Q Okay. And there is no studies of on the  
12 autopsy that support that he had agitated delirium,  
13 correct?

14 A You mean examining the tissues? Like I  
15 said, there is no -- there is nothing in a routine  
16 autopsy that establishes that diagnosis.

17 Q And the physical evidence -- so there is no  
18 physical evidence to show that he had objective  
19 physical evidence that showed that he had agitated  
20 delirium, correct?

21 A Well, again, you're looking at the tissues,  
22 yes. Yeah, you can't in a routine autopsy make that  
23 diagnosis. It's based on what the patient does,  
24 what it's like clinically, the circumstances.

25 Q Okay. And in addition to that, he was never



1 diagnosed with any pre-existing, you know, any prior  
2 mental illness, was he?

3       **A** You know, I hadn't heard that he was.

4       **Q** Nothing in the record shows he was, correct?

5       **A** That's correct.

6       **Q** So we've got nothing in the records showing  
7 that he was ever diagnosed with any mental or  
8 psychosis, correct?

9       **A** Prior to this event.

10       **Q** And we've got a body temperature which is  
11 inconsistent with agitated delirium, correct?

12               MS. SHAFIAIE: Foundation.

13       **A** No. It's absolutely consistent with it.  
14 You can have normal body temperature and have  
15 agitated delirium.

16       **Q** (By Mr. Floyd) And was there any acidic  
17 blood -- any signs of acidic blood?

18       **A** Acidosis. I'm sure he's got acidosis. He  
19 had arrested. He would have gotten acidosis after  
20 that.

21       **Q** Have you ever diagnosed a cause of death as  
22 v-fib from a TASER?

23       **A** I saw one case where I was reasonably  
24 convinced or I think that the TASER probably did it,  
25 although there are problems with that particular

1 case, so I'm not entirely sure that it has. I  
2 wouldn't go to the wall and say it had to have been  
3 that, but there is one that is pretty suspicious.

4 Q So we can say there is one case that you  
5 believe more likely than not?

6 A Yeah, I'm pretty suspicious. I don't think  
7 it more likely than not even, but I'm pretty  
8 suspicious that it was.

9 Q What percentage of excited delirium deaths  
10 show a v-fib, result in v-fib?

11 A Don't know. It's a small percentage, but I  
12 don't know what the number is. I'm kind of looking  
13 into that. Starting to look into that now.

14 Q Pretty rare, correct?

15 A It's uncommon. I don't know if I would go  
16 rare, but it's uncommon.

17 Q Rare is what you used earlier?

18 A But yeah, I think I said uncommon. I think  
19 you used rare.

20 Q Can you point me to the cardiac findings  
21 that led to your diagnosis that there was left  
22 ventricular --

23 A Ventricular hypertrophy?

24 Q Yes.

25 A Yeah, it's a 400 gram heart and he weighs

1 134 pounds.

2 Q We talked about that before, but you're just  
3 doing it on the mass of the heart?

4 A Yes.

5 Q And I thought maybe I've read some of your  
6 writings before, maybe I'm mistaken on this, but do  
7 you believe that African Americans as a general  
8 population have a tendency to have enlarged hearts  
9 more so than other portions of the population?

10 A Because hypertension is more common in the  
11 African American population, yes, but I don't think  
12 there is any evidence that he has hypertension, but  
13 I can't exclude that.

14 Q But you agree that African Americans have a  
15 higher rate of enlarged heart than other risks?

16 A Everything else being equal, I'm not sure  
17 that that's true.

18 Q I thought that was maybe in some of the  
19 literature.

20 Are you saying it's not?

21 A No. I think -- are you sure you're not  
22 talking about agitated delirium --

23 Q No.

24 A -- because I've certainly written that. No,  
25 I don't remember saying that African Americans

1 having larger hearts, everything else being equal.

2 Q Because of high blood pressure?

3 A Yeah, if you're in a hypertensive -- if  
4 you're looking at including hypertensive hearts,  
5 yeah, then they would because hypertension is more  
6 common in the black population, but excluding that  
7 and just taking all the parameters being equal  
8 among, you know, Caucasian and African American, I  
9 wouldn't expect that.

10 Q Because African Americans have a higher  
11 incidence of hypertension?

12 A Yes.

13 Q And hypertension is one of those kind of  
14 silent things that many people have and they don't  
15 know they have it, right?

16 A Probably not at that age so much but older,  
17 yes.

18 Q And I know you're leading back to that  
19 statement earlier and we're both going there and I  
20 believe that the statement that your writings  
21 previously that the African American population has  
22 a higher incidence of enlarged heart, that supports  
23 the idea that you never know what condition  
24 somebody's heart is in when you tase them, and  
25 officers can never know exactly what underlying

1 conditions a subject may or may not have?

2 MS. SHAFIAIE: Form and foundation.

3 **A** That's true.

4 **Q** Those are all the questions I have.

5 MR. DOWD: I don't have any.

6 MR. JOHNSON: No questions. Thank you, sir.

7 VIDEOGRAPHER: This concludes the deposition

8 of Michael Graham. We are off the record at 4:44.

9 This ends disc two.

10 (Exhibit 4 was marked for  
11 identification by the court  
12 reporter.)

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1 I, Linda DeBisschop, duly commissioned,  
2 qualified and authorized to administer oaths and to  
3 certify to depositions, do hereby certify that  
4 pursuant to Notice in the civil cause now pending  
5 and undetermined in the United States District  
6 Court, State of Missouri, to be used in the trial of  
7 said cause in said court, I was attended at the  
8 offices of St. Louis University, 1402 South Grand,  
9 St. Louis, Missouri, 63104, by the aforesaid  
10 attorneys; on the 8th day of March, 2016.

11 The said witness, being of sound mind and being  
12 by me first carefully examined and duly cautioned  
13 and sworn to testify the truth, the whole truth, and  
14 nothing but the truth in the case aforesaid,  
15 thereupon testified as is shown in the foregoing  
16 transcript, said testimony being by me reported in  
17 shorthand and caused to be transcribed into  
18 typewriting, and that the foregoing pages correctly  
19 set forth the testimony of the aforementioned  
20 witness, together with the questions propounded by  
21 counsel and remarks and objections of counsel  
22 thereto, and is in all respects a full, true,  
23 correct and complete transcript of the questions  
24 propounded to and the answers given by said witness;  
25 that signature of the deponent was waived by

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Michael Graham, M.D.

March 8, 2016

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1 agreement of counsel.

2 I further certify that I am not of counsel or  
3 attorney for either of the parties to said suit, not  
4 related to nor interested in any of the parties or  
5 their attorneys.

6

7 Dated this 13th of March, 2016.

8

9

10

*Linda DeBisschop*

Linda DeBisschop, CSR, CCR,  
11 Illinois CSR No. 084.004741  
Missouri CCR No. 779

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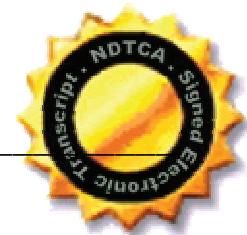
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Michael Graham, M.D.

March 8, 2016

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2

3

4

5 Tina Moore vs. Brian Kaminski, et al.

6

7

8 CERTIFICATE OF OFFICER AND

9 STATEMENT OF DEPOSITION CHARGES

10

11 DEPOSITION OF Michael Graham, M.D.

12

13 3/8/2016

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2 charges had not been paid. It is anticipated  
3 that all charges will be paid in the normal course  
4 of business.

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11 Commission expires

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13 Notary Public

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